BRITAIN'S BEST SELLING MAGAZINE FOR THE
CPC
464 • 664 • 6128

ISSUE 55 • APRIL 1990 • £1.4

NOT an official Amstrad publication!

AMSTRAD ACTION

FROM FUTURE PUBLISHING COMES THE MAGAZINE THAT LEADS THE FIELD



HE'S HISTORY!

Join the class of the '90s with *AA*'s educational extravaganza

PLUS

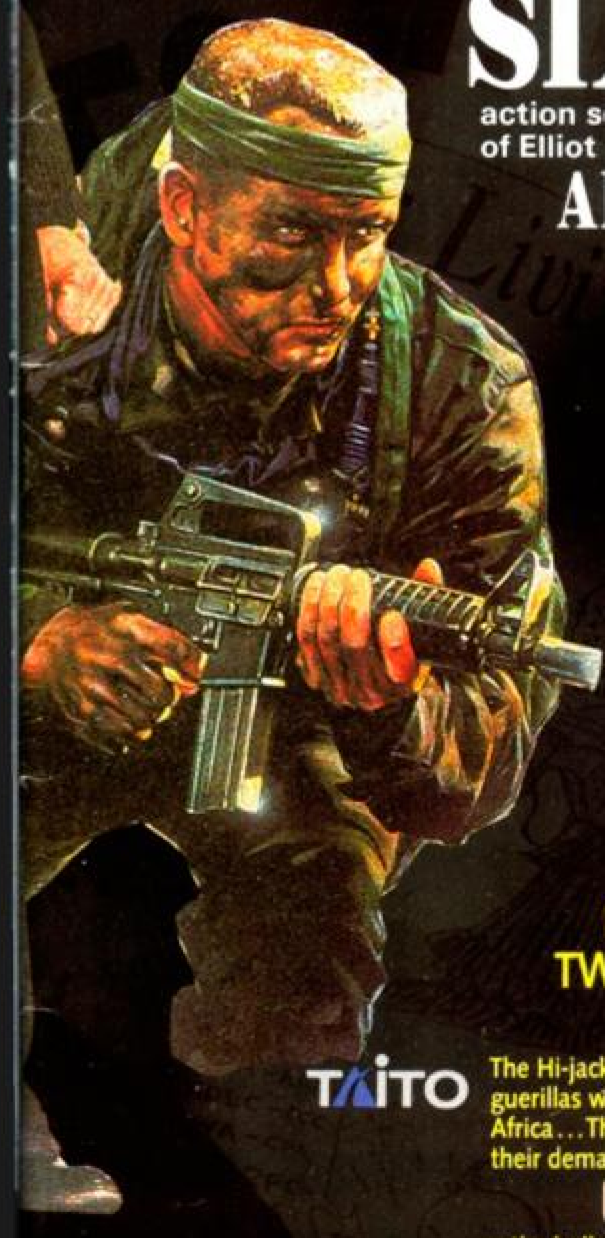
- More superb software in the PUBLIC DOMAIN
- FANTASTIC readers' art in GALLERY
- HEART RESEARCH pioneered – on a CPC
- ANATOMY OF AN RSX – Win an RSX-LIB from Smogware
- PHIL HOWARD's brand new CHEAT MODE
- And all the regular reviews, letters, hints, tips, news etc...

Fiendish Freddy's Big Top O'Fun • Myth • Kick Off • Wild Streets



TAKE THE LA
OWN
THE FASTEST, MOST THRILLING 3D DRIVING GAME YET!
VOTED ARCADE GAME OF THE YEAR
CHASE H.Q.
Take the wheel of your turbo-charged Porsche as you and your partner go in pursuit of danger-ous criminals all driving an evil array of souped-up roadsters.
TAITO
TURBO BOOST!
Need to catch up in a hurry? Well, just one press of your Turbo Button will leave your eyes in the back of your head!
BARRELLING THROUGH THE CITY STREETS, along the roughest of dirt tracks and through busy tunnels – if you can hold the line! The low life can run, but they can't hide ...
WITH THE MATCHLES VIGILANTE
ALL AVAILABLE FOR ATARI ST · AMIGA
Ocean Software Limited · 6
Telephone: 061 832 6633 · Telex:

W INTO YOUR HANDS



SIX INSPIRED

action sequences put you in control of Elliot Ness's elite squad of crime-busters.

ALLEYWAY SHOOTOUTS, THE BORDER RAID,

The Railway Station confrontation and Warehouse bust culminating in the thrilling denouement of a

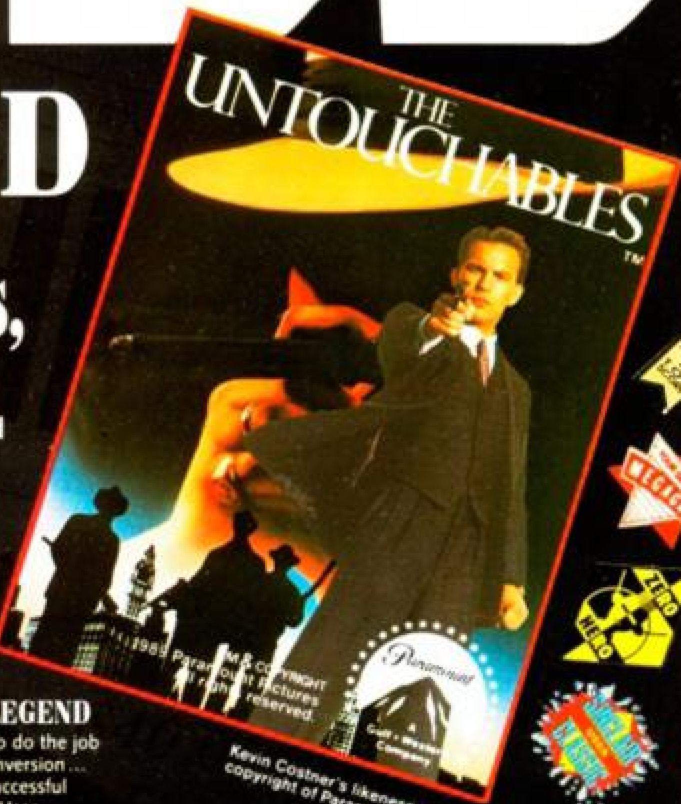
ROOFTOP DUEL

as you re-live the knife edge existence of Ness in his struggle against the retribution of Capone!

THE UNTOUCHABLES – LIVE AN AMERICAN LEGEND

"an absolute corker of a game ... as smooth and polished as you can get, animation is top notch ... a brilliant film conversion" Games Machine

"a fine example of how to do the job properly ... a cracking conversion ... easily one of the most successful licences to date" Sinclair User



Kevin Costner's likeness is the copyright of Paramount Pictures.



BLOCKBUSTER FOLLOW-UP TO LAST CHRISTMAS'S No. 1 HIT... OPERATION WOLF...

NOW WITH TWICE THE ACTION, TWICE THE FUN, TWICE THE CHALLENGE

ROY ADAM IS BACK!

TAITO

The Hi-jack report came from a DC10 leaving Paris for Boston – Arab guerillas were in control of flight 102 and had turned the aircraft towards Africa... The plane lands in hostile territory and the terrorists begin their demands...

USE THE LASERSIGHT

or the bulletproof vest, but watch out for

AIR-TO-GROUND MISSILES

Operation Thunderbolt the incredible Taito coin-op conversion brought NOW to your home computer.

FROM...







AMSTRAD · COMMODORE · SPECTRUM

al Street · Manchester · M2 5NS
977 OCEANS G · Fax: 061 834 0650

LINE UP

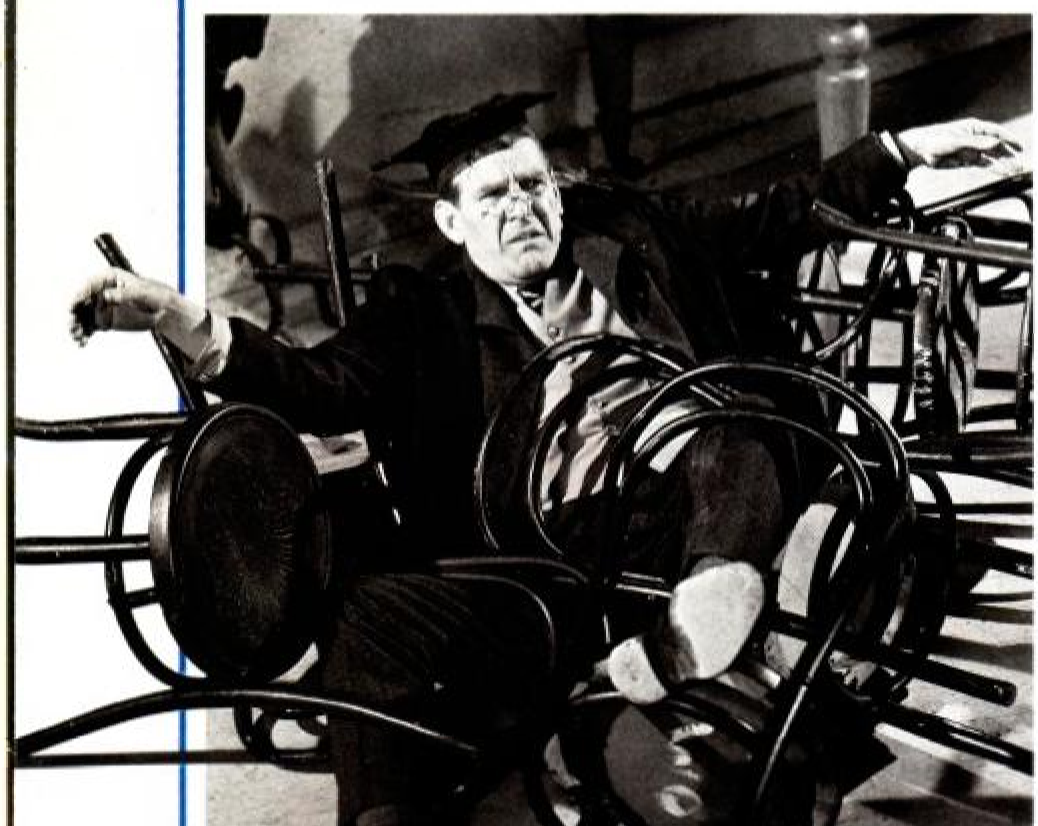
AMSTRAD ACTION ● APRIL 1990

FRONT END

NEWS●LETTERS

SERIOUS SIDE

CPC USES●HARDWARE●PROGRAMMING



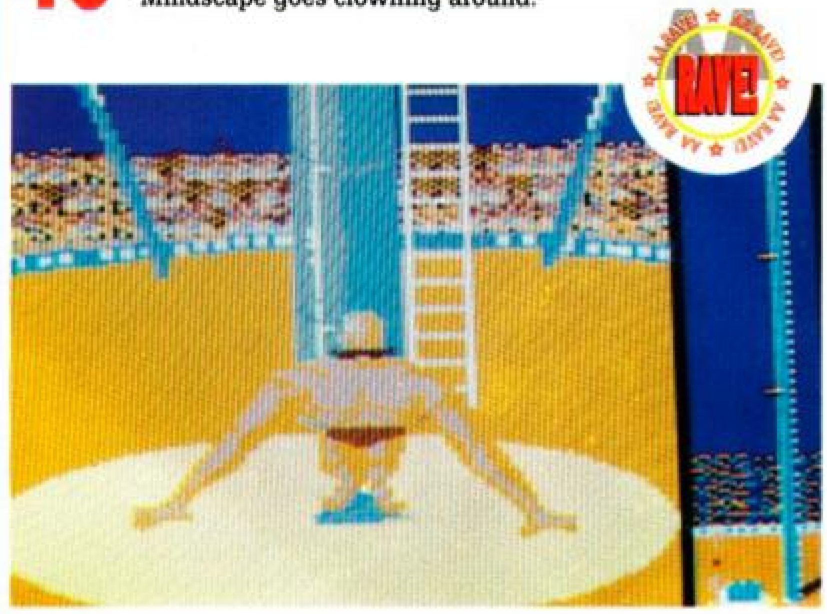
Future Publishing Limited
Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP

☎ 0225 442244 ● **Fax** 0225 446019 ● **Editor** Rod Lawton ● **Technical editor** Adam Waring ● **Games editor** Trenton Webb ● **Art editor** Ollie Alderton ● **Additional design** Paul Morgan ● **Contributors** Emma Broadley, Jerry Glenwright, Michael Gledhill, The Balrog, David Holmes, Phil Howard ● **Publisher** Greg Ingham ● **Production** Melissa Parkinson ● **Admin Co-ordinator** James Leach ● **Subscriptions** Christine Stacey ☎ 0458 74011 ● **Mail Order** Clare Bates ☎ 0458 74011 ● **Advertisements** Elaine Brooks ☎ 0225 442244 ● **Distribution** Comag

ABC
MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS
35,189
January-June 1989

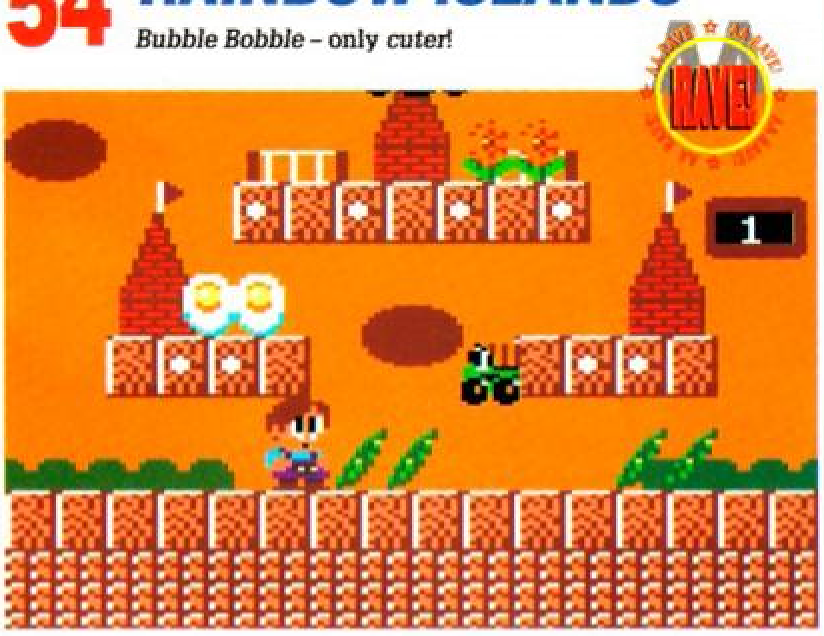
THE ACTION BEGINS ON 39!

THE VERY BEST IN CPC ENTERTAINMENT









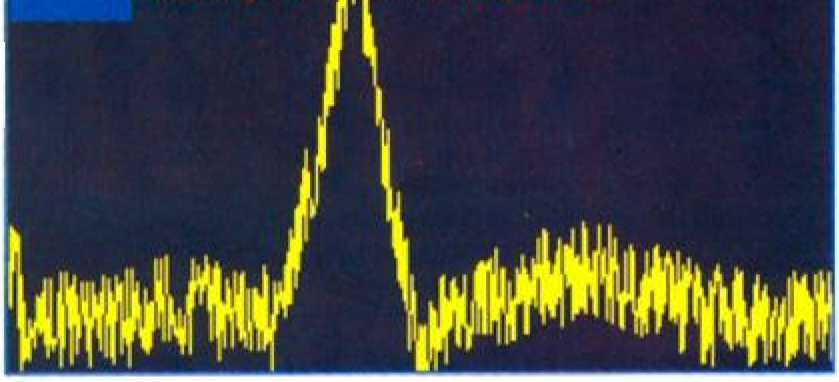


Educating Arnold

Educational software? Don't make me larf – that was our reaction to the idea that the CPC had a serious educational role. We all know that it's a games machine *par excellence* and that there's many a small business running smoothly with a CPC at its heart. The educational sector, we thought, was dominated by that overpriced old relic the BBC (sorry, Beeb owners, it has to be said). Well, dominated it may be, ruled it's not. The fact is that there are oodles of educational packages out there for the CPC – they just need finding. And find them we did, as you will see when you turn to our educational round-up on page 16.



And after last month's story about CPCs and weather satellites comes one about CPCs and heart research! Trenton talks to a man who aims to revolutionise electrocardiographic diagnostic techniques. And if you thought that was a mouthful, wait 'till you see the maths...





AMSTRAD'S NEW CPCS

Amstrad console confirmed, plus new enhanced 464 and 6128 models

Amstrad is still saying nothing, but *Amstrad Action* can now reveal that not only is the CPC console definitely on its way, top software developers almost certainly have prototypes right now.

Amstrad has a strict policy of neither confirming nor denying incipient hardware launches. The company's position on the long-rumoured CPC games console has been that "we are always considering new ideas, and that may or may not be one of them". The company has also maintained in the past that of the many projects always under consideration, only a few will ever come to fruition.

464/6128 relaunch

Nevertheless, news of a September launch has leaked out. And the surprise for CPC owners is that not only will there be – as suspected – a CPC console, there will be enhancements to the existing machines too. The details are still closely guarded, but insiders believe the existing machines will gain both the enhanced graphics and sound capabilities of the new console, as well as a cartridge port for ROM-based games.

Prices have yet to be decided upon, but most believe the console will cost in the region of £100. This will place it slightly above the Sega Master System, but the Amstrad will be backed by the formidable marketing clout of the boys from Brentwood. Although the Sega may be marginally cheaper, you can be sure the Amstrad will be in ten times as many shops. As for the new 464 and 6128 machines – expect them to cost the same as the current models.

Cartridges are likely to cost in the region of £30. Not cheap, but about the going rate for console games. The problem is really the sheer cost of cartridges rather than software development. For this reason, it's unlikely that sales of normal disk or taped-based software will be hit straight away.

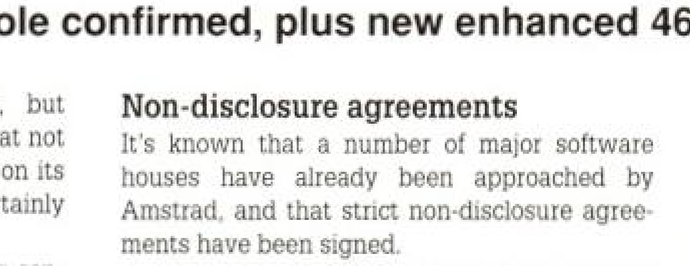
However, the cartridge-based games may well take over from current full-price software in the long run. Quite simply, cartridges offer software houses the opportunity to design far 'larger' games than ever before. Each cartridge will hold between 256K and 512K, which means substantially increased gameplay, massively improved graphics/animation, full-length soundtracks and possibly all of the above!

Non-disclosure agreements

It's known that a number of major software houses have already been approached by Amstrad, and that strict non-disclosure agreements have been signed.

This is standard practice in the computing industry, and is an attempt by manufacturers to withhold details about product launches until the last possible moment, while ensuring the software support is there right from the word go. When the machine appears, we can expect to see ready-made software from the likes of Ocean, US Gold, Domark, Virgin, Activision and the half dozen other top software producers.

The new Amstrad machines are expected to make their public debut in September, probably at the Earls Court *Computer Entertainment Show*. *AA* will be there, camped out all night in front of the main doors, if necessary...



● Amstrad's mystery new CPCs: September launch planned.

AND ABOUT TIME TOO!

The CPC may still be the most advanced 8-bit home micro you can buy, but it was actually launched as long ago as 1984 – on the 11th of April, to be exact. Since then, the machine has sold over 2 million units in its various incarnations, most of these sales being in the UK.

And it's interesting to note that even back then Alan Sugar's company used the same launch tactics: keep everyone in the dark except a specially-selected group of software developers. It worked then, too. The new machine was backed up by a strong software base right from the day of the launch.



● The canny Alan Sugar, still playing his cards close to his chest.

But six years is a long time in computing. The CPC still isn't showing its age, but the pundits have been starting to question how much longer the machine will carry on. Particularly since Amstrad had appeared to lose interest in it entirely.

Now, though, we know better. And it's pretty obvious why Amstrad didn't push the CPC too hard over Christmas, too.

BACK FROM THE BRINK

It's not been a happy eighteen months for Amstrad. In *AA*51we reported that the company's profits for the past year had fallen from a massive £160 million to a mere £77 million. Now comes news that Amstrad's profits for the six-month period ending December 31st 1989 were just 30.1 million. That's 60 per cent less than for the same period the year before.

Nevertheless, it's not all doom and gloom. Many city experts were predicting worse figures than that, and Amstrad itself appears pleasantly surprised. Christmas sales went very well, and many lines actually sold out because of the company's new-found caution over stock levels.

The informed view now is that Amstrad is over the worst of its troubles, and its new, more cautious, approach will continue to pay dividends. Part of its future success, of course, will depend on the new CPCs. Many people have been surprised by the continued popularity of the Z80-based CPC and PCW machines, and although Amstrad has long signalled its intention of moving more heavily into the corporate PC market, it's possible that the company has also decided to cash in on the success of its humbler models.

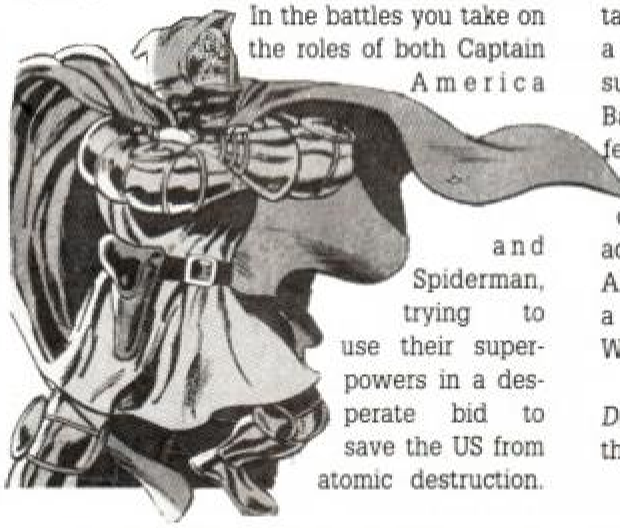
Certainly, the enhancements planned for the CPC will cost less to implement than the design of yet another high-powered PC, and it may well be that in the long term Amstrad's success will depend as much on the stalwarts that launched its computing era as on the latest 32-bit corporate wunderkind.

AMSCENE

DOOM'S DAY NEARS



Dr Doom's Revenge, the superhero epic from Empire, blasts onto the CPC this month. "An interactive comic book arcade game", the machine takes care of the plot while you do the fighting!



In the battles you take on the roles of both Captain America and Spiderman, trying to use their superpowers in a desperate bid to save the US from atomic destruction.

The graphics look set to capture the true Marvel flavour as you are taken through a series of deadly duels against all the best super villainy has to offer: Rhino, Hobgoblin, Batroc and Dr Doom himself, to name but a few.

Meanwhile, controversy rages in the *AA* offices. Trenton reckons that DC Comic characters are "a bunch of spineless wimps", while Art Ed Ollie insists that Marvel superheros are a "bunch of fat, mindless thugs". Adam Waring is 94.

AA will have the full review of *Doctor Doom* as soon as we've finished the free comic that comes in the box!

Last Vendetta IV

System 3 has begun a Vendetta. Its latest arcade adventure takes you on the hunt for some rather nasty terrorists who've framed you and kidnapped your family. The aim is to hunt down the bad guys, collecting evidence as you go and hurting as many people as possible in the process.

Set in a 3D world (much like *Last Ninja II*), each level is composed of an adventure section followed by a driving challenge that takes you to the next level. The car sections influence the outcome, so a sharp eye for bends will be needed as much as sharp reflexes for the fighting. The *Vendetta* should be beginning soon. Very soon.



Extra! Extra! Read all about it!

An enhancement to the low cost desktop publishing package *Page Publisher* has just been announced by SD Microsystems. *Page Publisher Extra* is a collection of new fonts and clip art that can be added to the *Page Publisher system*. The enhancement disk costs £10. A complete package consisting of the *Page Publisher* package and the *Extra* disk is available for £29.95, a saving of £5 over buying the items individually.

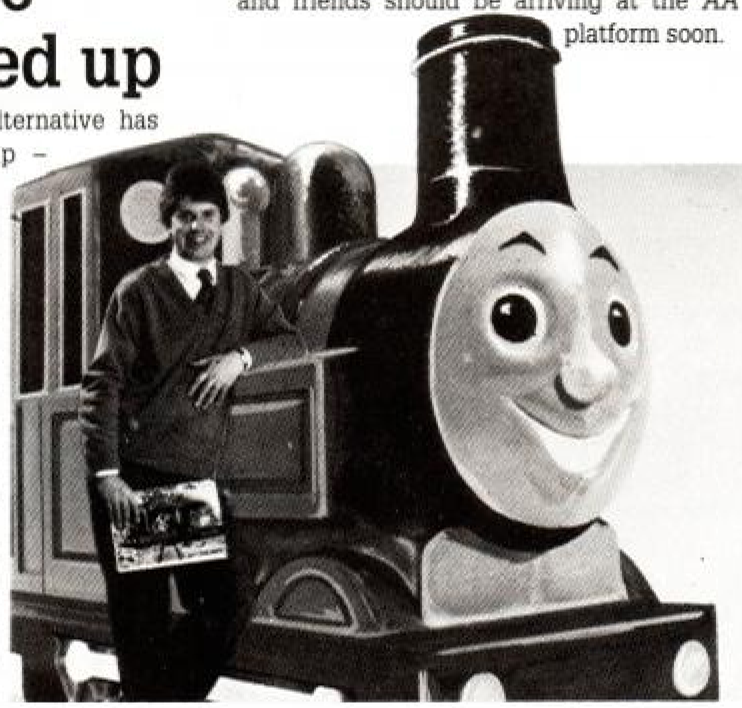
The SD Microsystems newsdesk is at **PO Box 24, Hitchin, Herts. SG4 OAE. Tel: 0462 422897**.

Alternative gets Tanked up

Budget licence specialist Alternative has made public its latest coup – *Thomas the Tank Engine*.

The little chuffer has been signed to appear soon on a CPC near you. All the rolling stock from the books and TV series will be there – Percy, James, Henry etc – and the fat controller is reported to be over the moon at the prospect of it all.

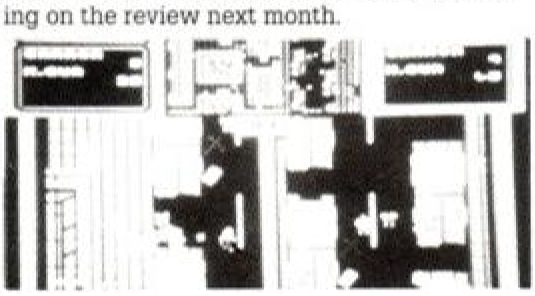
The game will feature the famous TV theme tune and will offer variable degrees of difficulty so that both young and old can play. Barring timetable disasters, Thomas and friends should be arriving at the *AA* platform soon.



A good crack

Crackdown, the new arcade licence from US Gold, will be on the streets any day now. It allows you to take on the evil Dr K and his army of biogenetically-engineered humanoids and simply blow his fortress to smithereens. In the guise of either Ben Breaker or Andy Attacker, you'll have to break in and plant three bombs on each of the 16 levels to stop the mad, bad doctor.

It plays in the *Gauntlet* overhead style, with each of the two players able to roam around on their own screen planting bombs and shooting villains by the score. You can pick special weapons – even superbombs – to help the kill ratio as you weave around between flows of lava, junkyards and the perilous rooftops. *AA* should be able to get cracking on the review next month.



Monty's back!

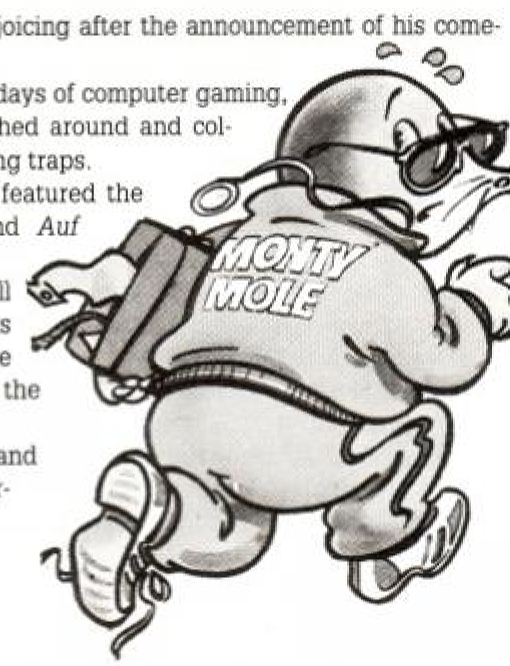
After four years of mourning Monty Mole, fans are rejoicing after the announcement of his comeback.

One of the most successful characters in the early days of computer gaming, Monty's speciality was platform adventures. You rushed around and collecting teapots and other useful items, all while avoiding traps.

Renowned classics (*speak for yourself – ed*) that featured the cutesy insectivore included *Monty on the Run* and *Auf Wiedersehen Monty*.

His success was unprecedented and his fame still lingers on, even though his last full-price debut was way back in 1987. Gremlin has finally succumbed to the pressure and will "take him into the 1990s with all the glory and pizazz he was given in the '80s".

Merchandised to death with T-shirts, sweatshirts and badges, the poor little digger's ultimate aim is, apparently, his own cartoon series!



FUTURE'S AWARDS

Future Publishing, the company which produces *Amstrad Action*, has thrown its weight behind the new *European Computer Leisure Awards* for products developed in both Britain and Europe.

Future has joined forces with the giant US computer magazine publisher Compute Inc and nine other market-leading titles in Europe to thrash out the wheat from the software chaff.

The first stage will involve a national panel of journalists sitting to decide the best product in each of the respective categories (software publisher of the year, game of the year etc). These winners will then be compared with their continental counterparts, with an overall winner being announced on the first night of the *European Computer Trade Show*.

The ceremony will be an oscar style affair and the awards should carry considerable kudos; the one authoritative voice of the European computer press backed by the leading computing trade body ELSPA. Who won what will be revealed on April 1, and *AA* – Future's first title – will be there to get the facts.

WAVE those upgrades goodbye

Potential upgraders from 464 to 6128 spec will no doubt be aware that 6128 ROM chips have been withdrawn by Locomotive Software.

Following licensing revelations, the ROMs have been withdrawn from sale as individual items to upgraders, and now can only be bought as direct replacements for faulty 6128 ROMs (see *Amscene AA*53).

Well, the saga continued last month when we reported that WAVE, a major supplier of upgrades, had secured a thousand of these ROMs... It now transpires that there has been such a high demand for these silicon upgrades that WAVE is running out.

Mark Ralph, a spokesman for the firm, explains: "Although we purchased a large quantity of these 6128 ROMs, stocks are beginning to run dry. We have around 150 left, and after those have gone we will not be able to obtain any more."

So, if you want to beef up your 464 then do it now before it's too late! WAVE's address is **1 Buccleuch Street, Barrow-in-Furness, Cumbria, LA14 1SR. Tel: 0229 870000.**



Snowed under

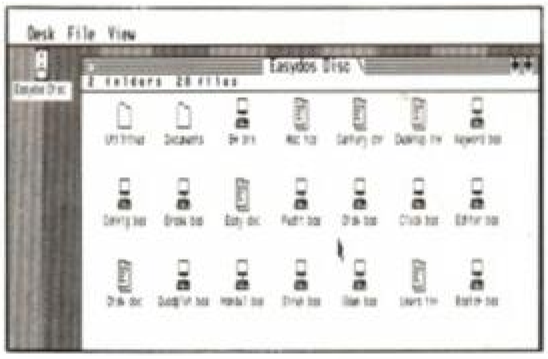
Mike Worsley, the writer behind last month's *Out of this World* piece, has certainly captured the imagination of *AA* readers. The Weather Satellites feature proved so popular that Mike received over 60 inquiries within a week of the magazine hitting the streets. He told us that if those who wrote in can hang on just a little longer, all those enquiries will be answered.



Wild Man found in Withernsea

We have been inundated with requests for the whereabouts of David Wild, proprietor of D W Software, whose public domain programs – including the startling ST-style desktop emulator *Desk* – were featured in last month's *Free for all* PD round-up.

Well, here's what you wanted to know. Details of David's crucial PD collection can be obtained from **DW Software, 62 Lascelles Avenue, Withernsea, North Humberside. HU19 2EB. Tel: 0964 612070.**



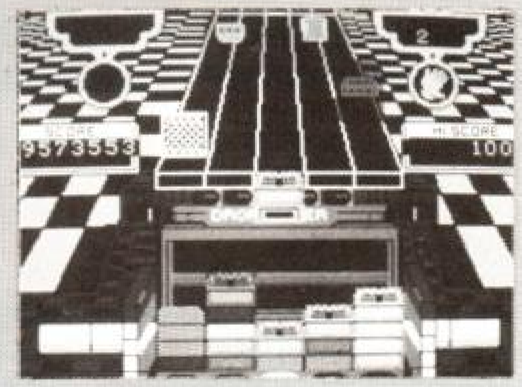
Tic-Tac-Tiles!

Domark continues to assert itself as one of the country's leading arcade converters with the imminent release of *Klax*.

The arcade machine is due to be launched simultaneously with the home computer versions, allowing you to bone up at home before spending any cash in the arcades. This is the first time the arcade and leisure industries have co-operated in this fashion.

Based on the Atari/Tengen coin-op, the game is one of stunning simplicity and addictiveness. It involves manipulating shapes as they roll towards you, trying to line them up in a pre-set pattern. It's a cross between noughts and crosses and the Russian classic Tetris.

The rolling shapes, if collected in the right pattern, score a Klax, but if too many fall then you're out and it's game over. This Tic-Tac-Tile game is due for release on April 12, but *AA* will be trying to get its hands a review copy ASAP.



Little Puffs at Codemasters

Codemasters has absolutely bucketloads of new product that should just about be reaching the shops by the time you read this:

On Codemasters' new (-ish) Cartoon Time label is *Little Puff*, the sorry tale of a baby dragon trying to finding his way in the big, wide world.

And the sequel to the top-selling *Super Stuntman* is also due to hit the streets. Entitled *Italian Supercar*, the game features high-speed daredevil exploits in a Lamborghini sports car (*they borrowed mine for the artwork – ed*).

Previous full-price seller *Rock Star Ate My Hamster* is being re-offered in the Codemasters budget range.

The game puts you in the shoes of a record tycoon, and your objective is simply to promote your pop group and make as much dosh as possible. The game provides an amusing insight into the music industry, and plays hundreds of combinations of musical tunes that actually improve as your band improves.

Finally, in *Bounty Hunter* you don your ten-gallon hat and six-shooter, for a Wild West romp.

All the above games will retail at £2.99. Look out for reviews next issue. In the meantime, you'll find Codemasters at: **Lower Farm House, Stoneythorpe, Southam, Warwickshire CV33 0DL. Tel 0926 814132.**

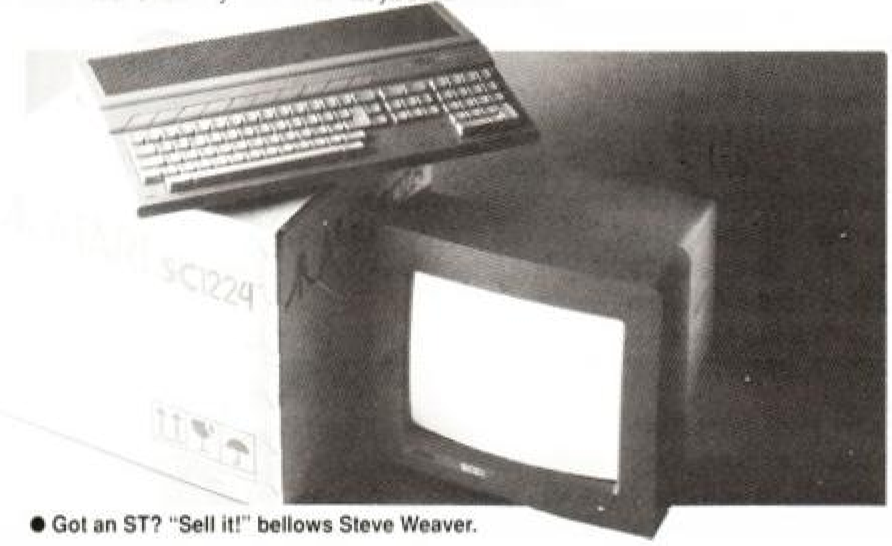
REACTION

Both praise and polemic from our righteous readers...

● Born again CPC-er

About five years ago I received a brand, spanking new Amstrad CPC464 for my birthday, complete with "free £100 worth of software" (anyone want to buy a copy of *Roland in the Caves*? Please?). Deep joy. This was definitely The Business.

A slight tinge of regret in having to dispose of my faithful Dragon 32 soon faded as I sat hunched over my Amstrad keyboard into the dark hours of the early morning. I'm not a computer addict, I sometimes didn't touch Arnold for days on end, and after five years I've still less than three hundred games, but I'm not jealous of those who religiously buy every new film or TV licence. What I've bought are the programs that I have played and decided I'd like to own. Any program without lasting appeal doesn't get a look-in.



● Got an ST? "Sell it!" bellows Steve Weaver.

My programs range from classics like *Protext* on ROM (luv it, luv it!), *Tomahawk* (definitely the best flight sim I've played on the 464 – *Gunship* doesn't even come into it), *Get Dexter*, *Driller* and *Elite* to budget games like the *Magic Knight* series (hands up who remembers *Knight Time*, the first budget *AA Mastergame*?).

Anyway, two years ago I bought an Atari 520STFM. The idea being to upgrade and keep abreast of the computer scene, as I'm sure many others did and still do. Oh, the ease of use, the luxuriant speed of the drive, the graphic excellence, the sophisticated software and the challenging games. I was most definitely hooked.

Well in that case, how come I am sitting down in front of my Arnold, with the Atari carefully packed away in a cardboard box waiting for me to get around to selling it to finance Arnold's new drive, a subscription to *AA*, 128K memory expansion and an 8-bit printer port (so my DMP 2160 won't feel left out)?

Whatever happened to the fun in computing? I just got so well and truly cheesed off with the way that the 16-bit magazines appear to try to make you feel so small if you don't own at least the top of the range model. Do we really need to know about laser printers costing x thousand pounds, DTP programs costing more than the entire system? There I was with a 512K machine, built-in drive, 9-pin printer and still being treated like a second-class citizen.

I came close to totally losing all interest in computing and bringing my fishing rods out of retirement. It was while rooting around in the cupboard upstairs that I came across an ancient dust-enscrusted tome, the fabled *AA* no2 (sorry, I never did buy no 1). I spent the next couple of hours running around, finding all the old programs, dusting down the machine, and popping out to buy the latest issue of *AA*. I was very surprised in the changes since I'd last bought your magazine, but not disappointed, I hasten to add.

Anyway, I am now firmly re-united with my trusty 464 and my trusty *AA*. Sorry for breaking with the faith, but I'm back with the programme now and shall be staying with it as long as my Viper can still dock at a Coriolis Station.

Thanks, *AA*, thanks for making me realise just how much fun computing can be again, even if you don't have megabytes and hard disks coming out of your ears.

Don't upgrade just because you think you're getting left behind. Think carefully about what you want and why you want it. If a machine has dedicated users, like the CPC does, its death is not a foregone conclusion. The CPC is in a unique position. Let's face it, although there may not be as many of us as there are C64 and Spectrum users, look at the versatility and potential we have at our fingertips compared to them. We should all make our feelings know to Amstrad on the future of the CPC. Production obviously will not go on forever, but support can if it is profitable to Amstrad. Perhaps *AA* can organise a petition to show the strength of feeling there is at Amstrad's cavalier attitude? Or am I just getting old and sentimental.

Long live the CPCs – long live *AA* – long live the users!

Steve Weaver (a world-weary 22)

AA: Amstrad isn't likely to be swayed by petitions, Steve, just hard cash. And the fact is that the CPC makes money. As long as it continues to make money, Amstrad will continue to make it.

● Pirate ahoy!

The CPC is a popular computer here in Western Australia. C64s are just as common, if

● Fading away

Come on, help me! I have written to you before (*o, er... have you? – ed*), yes, I have you know. I love my Amstrad, it's much better than the Commodore and Speccy. But, although it's virtually brand new, the letters on the keys are *fading*! Yes, fading. How come? Aren't they supposed to stay on? Let's be more precise, the letter (it's not *letters* – yet) is the letter "p". Please, please, please (*it could be typing "please" too much – ed*) tell me where I can possibly get something to print over it and to keep it there or anything else that will work. Print this and I'll keep buying *AA*!

(*Ok, right, well what you nee...*) As well as that, are there any books that can be of help to beginners, since the manual is "well 'ard" to understand. If so – what? Please answer and reply. Keep up this brilliant, utterly mega mag.

Another word in your ear (*if you must*) – why can't you sometimes put disks on the cover. I know it is expensive – well maybe a little – but it would be nice for 6128 owners like myself, or special occasions.

Kevin Ho
Aylesbury

AA: If your "p" disa ears com letely you have several choices. You could redefine one of the lesser-used keys such as f0 to roduce the letter " ", or you simply examine every letter on the keyboard to find out which one hasn't got any ink on it each time you want ...

Sorry, we're being facetious. All we can suggest is that you either user a marker pen to draw the letter in, or try to find a Letraset kit with the right-sized letters. You could always try to get hold of a replacement key, but that's going a bit far.

No, we can't put disks on the cover. Yes, it is too expensive.

not more so, but the law remains: to own any other computer than a CPC, Amiga or Atari ST is blasphemy of the highest order. CPC software is expensive but still common, and recommended by all but Commode – sorry, *Commodore* – dealers.

To describe the W.A piracy situation – the copying of games and giving the copies to friends comes into the same area as the copying of audio tapes, which seems to be a rarely enforced law. My own set of second-hand software includes 22 disks, 63 games, 2 art programs etc etc. End of the exposé of the unabated flow of piracy in W.A. Imagine what it's like in America.

The pirates that do cop it are the ones who copy games and then sell them at reduced prices. But the situation is the software houses' fault because of the huge prices. But one thing's certain – if FAST goes international, a lot of people are in a lot of trouble.

Murray Christian
Perth
Australia

AA: Including you, chum.

● Oh, Brother

I have got a used Brother M-1109 printer to use with my CPC6128, but unfortunately when I bought it the owner was unable to give me a user manual for it. Please could you give me Brother's address and phone number so I can write to them and order one – or is there a M-1109 owner willing to sell me their manual?

Mr BS Matharu
Birmingham

AA: Write to Brother at Shepley Street, Audenshaw, Manchester M34 5JD (061 330 6531). Alternatively, any Good Samaritans out there with an unwanted manual can get in touch via AA.

● Printer plea

Please, please, please... (*it goes on like this for a while*)... please can you help me? I have just bought an Amstrad DMP1 printer but it didn't have a manual. Please could you tell me where I can get hold of a manual?

David Alexander Jnr
Ballingry
Fife

AA: No, but we know a man who can. Or rather we know of 35,000 readers who might be able to. Anyone out there got a DMP1 manual they don't want?

● BASIC information

Last May I bought an Amstrad CPC464. But a friend told me I should have got a programming manual with it. I don't know whether or not I should have done, but now I want to start programming and I don't know where to begin. I tried looking in shops all around me but I couldn't find an Amstrad manual for beginners.

Ashley Britnell
Dumfries

● Type-In tapes?

It seems to me that the only area in *AA* that could be drastically improved upon is the *Type-Ins* section. When a reader types in a program, the chances are that the program in question won't work the first time run. Commonly it's only a typing error, but sometimes it is the magazine listing that is wrong. Also, looking back over older issues, it has been said that the *AA* covertapes, though excellent in content, are few and far between.

My idea is this: why doesn't *AA* start its own PD library? All the type-ins you receive that work could be put into the library, thus ensuring 100% reliability and 0% disappointment.

Playable demos for more games could be available, if reading the review isn't enough to convince a reader to buy a game.

In the recent article on PD software, something to the effect of "PD programs are not well documented" was said. Documentation could be provided in the magazine. So if a CPC user who didn't read *AA* sent off for software, he/she wouldn't be able to use the program. If this didn't work, a password system could be used, enabling only *AA* readers to benefit from such a service. I'm sure that most readers wouldn't mind a small increase in the cost of *AA* if it meant access to a library of ever-increasing programs and demos. I hope you consider this idea.

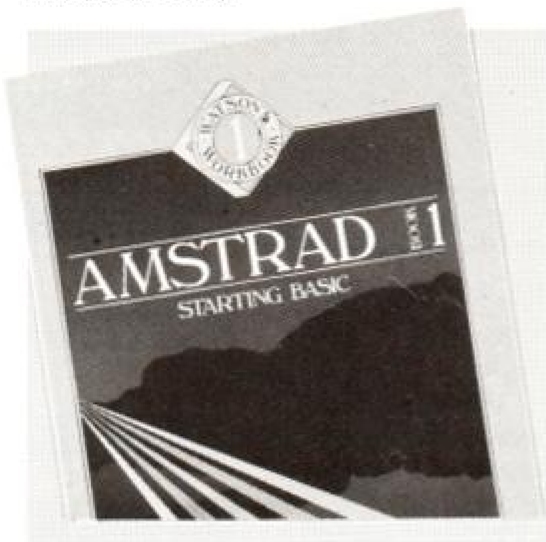
Jameel Syed
Edgware
Middlesex

AA: We try to minimise the possibility of readers typing in listings incorrectly by printing the Typewriter *program occasionally. This prints out a code for each line of BASIC which lets you compare your line to the one in the magazine to see if you've typed it correctly. All the listings we print are checked first, so if you've got* Typewriter *it's hard to see how you can go wrong.*

As for AA setting up and running its own PD library, it's not something we've considered before. We'll have a discussion about it down at the pub... er, I mean in the Boardroom and see what we come up with...

AA: Try Amstrad: Starting BASIC, *by Sean Gray and Eddy Maddix and published by Glentop, ISBN no 0 907792 39 1.*

If you can't find it in a local bookshop you can get it directly from the publishers: ***Glentop Publishers Ltd, Standfast House, Bath Place, High Street, Barnet, Herts EN5 1ED (01 441 4130).***



● **Want to learn all about programming? Well then look no further...**

● More lines in your listings?

I am writing to reply to your request for brainwaves to transform the totally brilliant CPC. How about a scanner that reads in a bar code? I bet you're saying "What's the use of a scanner on a CPC?" Well, it could read in programs and automatically type them in (a life-saver for people with keyboard cramp). So twist somebody's arm and get it made (e.g. Adam Waring, Alan Sugar, Romantic Robot etc.)

Andrew Palmer
Great Yarmouth

AA: It sounded a great idea at first, until we carried out some quick, back-of-an-envelope calculations...

The trouble is, a type-in would take up between five and ten times as much space on the page and look incredibly boring.

● Out to grass

I am a widower pensioner and derive great joy from tapping your *type-ins* into my CPC464 and seeing them work. Let us have lots more – the longer the better.

However, due to my great age (three score and ten), no doubt, my reactions are not as fast as most of your young readers and, having successfully typed in *Lawn Mower Simulator* from the January issue of *AA*, I find that the wretched machine runs away with me and crashes before I have half-cut the ruddy lawn. As I would so much like to see the other two gardens, is there any way I can alter the listing to slow the beggar down?

Frank James
Chatham

AA; Try adding the following line:

```
495 FOR xx=1 TO 100:NEXT
```

This is just a simple FOR:NEXT loop which can be fine-tuned by changing the 100 either up or down – e.g. to 500 or 50 – for lower or higher speed respectively.

● Don't panic!

Are all our computer programs, games, accounts, datafiles etc going to be useless after 1993 when the new Television Channel 5 starts transmitting? I understand that they

have been allocated channels 35 and 37 therefore wrecking channel 36 on which computers are tuned.

If this is the case then surely whoever takes up the Channel 5 franchise should be expected to pay for the re-tuning of the nation's computers?

Do any of your staff or any readers know anything about this matter? Is there any reason that Channel 5 should be allocated these two channels instead of other channels?

Laurie Mash
Wakefield

AA: No, no, no and no. First of all, only a small percentage of computer users will use a TV instead of a monitor. And out of those, most would be likely to unplug the aerial first. There may be some interference from neighbouring channels even with the aerial taken out, but unless you live in a sleeping bag shackled to the mast of your local TV transmitter, it's hard to see it having any effect whatsoever.

HOWEVER – we could be wrong. Anyone else have any ideas...?

● New fanzine

I am the editor of a brand new CPC fanzine, called *Amstrad CPC Monthly*. It costs 20p (plus a large SAE and a 26p stamp) and is packed with reviews, previews, type-ins, cheats and much more. Also, we need contributors for our type-ins and cheat pages. We hope you enjoy reading it!

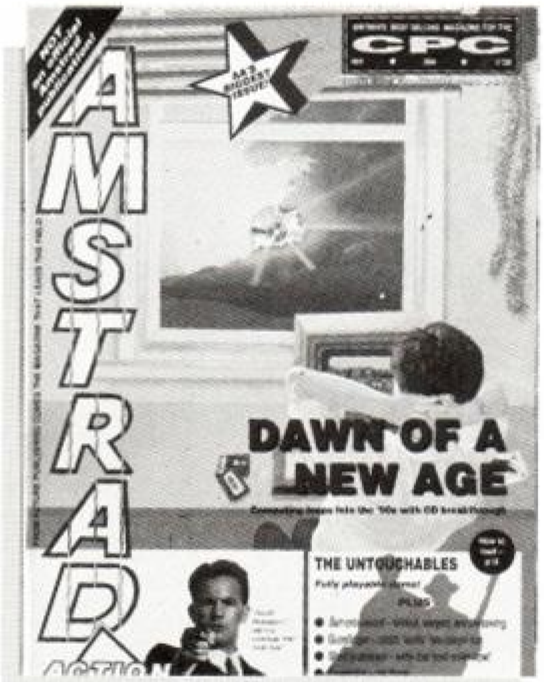
Glen Scott
17 Heather Gardens
Belton
Great Yarmouth
Norfolk NR31 9PP

AA: So do we. How about sending us a copy?

● Mr Glum

Three years ago I started purchasing your magazine, in the hope that I might learn to use my 464 to my advantage. I found that I got more knowledge from your excellent *Type-Ins* than I got from other sources. Some of the programs have been a real boon to me – the last I used was *The Home Accountant*; it is the most useful prog I have managed to make sense of so far. By trial and error I have acquired other little bits of useful information, and did so look forward to the monthly *Type-Ins*. Then all of a sudden there seemed to be nothing but errors in both the printing and the progs themselves, some taking me literally hours to type in, only to find something was wrong. I tried getting other people to recheck my input typing, but even when this was found to be correct the progs wouldn't run correctly. For this reason I stopped buying the magazine.

I then saw your Christmas issue and decided to give it another try. I shouldn't have bothered. Firstly, the type-ins are all games and of little interest to myself, who are trying to make a serious use of our CPCs. Secondly, to cap it all, on running the word processor and trying to boot the user information, I find this will not



● *AA52*: **Just too much fun, says Mr. Kimmings.**

work at all. There are even several mistakes in the wording of the Garbage section. Taking into account that there is a hell of a lot of work involved in producting both the magazine and the cassette, surely these cannot have been carefully checked prior to production. I am not even going to bother to send the cassette back, it's a waste of postage. And depending on your reply, I intend to withhold purchasing the magazine; at the same time passing on my thoughts to others I know who will I feel sure agree with me. We are not all in a position to throw away money which is now so hard to come by.

Your own comments would be greatly appreciated.

Peter Dean-Kimmings R.D.
Batley
West Yorkshire

AA: Our comments? Withhold your purchase by all means, since you don't seem to derive much pleasure from any of AA's many other features – up-to-the-minute game reviews, product evaluation, hints, tips, letters, features, surveys etc etc. We are heartily sorry for any mistakes that occur in Type-Ins, but we do our best, you know. The Christmas edition featured games heavily because it is the season to make merry after all! As for being dissatisfied with our cover cassette offerings – we rely on readers' contributions, so if you think you can do better, you know what to do!

● Getting on the right track

I own an Amstrad 464 and would be pleased if you could inform me whether there are any computer games or simulations relating to British Railways?

P Windle
Newcastle-upon-Tyne

AA: Oh, er, let's see now. BRSoft were to be producing an HST sim in 1985, but it still hasn't turned up... um, Southern Region was a package that crashed every time the weather turned bad... er, Fare Cop was an arcade adventure where you had to try to get your ticket punched before the price went up...

OK, seriously now, we don't know of any commercially-available train sims relating specifically to British Rail. There may be some home-grown software out there somewhere, though, so if anyone knows of any, please get in touch.

● Money to burn?

I'm writing from the depths of France to comment on the letter from David Meredith in *AA* February. In it he describes how a little metal strip got detached from the front of his Canon PW1080A. I was impressed by his accurate description of the problem. I did exactly the same myself. What David failed to mention was that he did it by trying to wind sticky labels BACKWARDS! He also failed to mention that the "little strip" is a strip of spring steel spot welded along the full length of the platen.

When it happened to me, it never occurred to me to try to get it repaired as it was obvious that any repair must involve replacing the entire platen and that such a course must be pricey. The printer still works OK without the strip, although a little noisier. If David is able to spot weld spring steel to a platen, then I'll gladly send him my platen and he can fix mine too – if we can get the strip on its own, which I doubt. It would after all be expecting a car manufacturer to sell you a new element for a headlamp bulb, wouldn't it?

I'm all in favour of criticising manufacturers when they give bad service, but I think David is unduly harsh on Canon. Lastly, he says that he doesn't want to pay another £400 on a new one. Crumbs, I've just ordered a new 24-pin 192cps printer for £300! I dare say I can flog my old Canon for £30. I don't reckon 270 quid for 5 years' service is such a bad deal.

Ian Hoare
Ex-Editor *Amster's Cage*

AA: You what? Let's see if we've got this straight. Your Canon's spot-welded platen strip came off just because you tried to wind sticky labels backwards, and you think we're being too harsh on Canon? Might the manufacturer not consider a polite notice – "WARNING: Winding sticky labels backwards will leave you with an expensive repair"? And as for thinking £270 over five years (90% depreciation!) is OK, we think you must be absolutely bonkers! Your analogy about car headlamp bulbs is highly dodgy too – if bulbs cost £300 each we damned well would expect to be able to buy the filaments on their own! (calm down – ed)

BROADLEY SPEAKING



EMMA BROADLEY gets excited over the new CPCs, and gets some of flak over her ST comments...

At last! Amstrad looks like it's committing itself properly to the CPC. What am I talking about? This month's – this *year's* – red-hot news about the CPC console.

Mind you, it's not really the console news that excites me as much as the talk of enhancements to the rest of the range. Amstrad is being its usual cagey self and saying nothing about the new machiners – or even admitting its existence – so any speculation is bound to be just that.

Amstrad is in an awkward position, of course. Like any other company releasing important new hardware, it has to keep details quiet right up until the day of the launch to preserve maximum marketing effect, but it also has to deliver development machinery to all the major software producers well in advance so that there is some software out there when the machine is launched.

For this reason, all the software developers approached by Amstrad will have had to sign a very rigorous non-disclosure agreement, which means that they have to tow the official Amstrad line – to the point where *they* don't even admit the hardware's existence.

Hardware enhancements aside, perhaps the best news of all for CPC owners is the very fact that Amstrad had taken this step. The CPC's problem has never been its technical specifications, more its image in the industry. This has been true particularly over the last couple of years, when Amstrad have marketed the machine with what has amounted to near-indifference. Hardly surprising, therefore, that major software developers have been unwilling to commit themselves fully to the format. This has hit the CPC particularly badly in the field of business software, where decent powerful software can take a year or more to develop – and from Amstrad's general air of indifference, most developers could be forgiven for thinking the machine hadn't got that long to go!

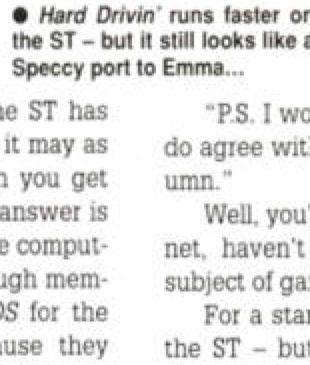
Well all that's set to change – and about time too.

My machine's better etc...

It looks like I stirred up a real hornets' nest with my comments about the Atari ST and upgrading. Here's just one of the many letters I received; it's from Michael Kirk, of Stevenage.

"I am the proud owner of an Atari 1040 ST, and my father has an Amstrad CPC 6128. That is how I came to read your column in the March edition of *AA* where the ST was being severely slagged off.

"I agree in that the CPC is a fantastic computer, for an 8-bit. But what are you saying about games not being as good on the ST as they are on the CPC? Have you seen *Hard Drivin'* running on an ST – fast – considering the CPC version is sluggish and is a direct Speccy port!



● *Hard Drivin'* runs faster on the ST – but it still looks like a Speccy port to Emma...

"So what if you have to load BASIC into the computer before you use it? With a fast disk drive like the ST has you hardly notice it, with a hard disk it may as well be on ROM! I ask you this, can you get anything like *STOS* on the CPC? The answer is no. Why? I'll tell you why. Because the computer is too slow and does not have enough memory. Plus why bother making a *STOS* for the CPC? People wouldn't buy it because they couldn't be bothered, because they have the wonderfully slow and awkward CPC BASIC. Don't you just hate the stupid way you delete disk files? With GEM on the ST you can just pick up the file with the mouse and put it in the trash-can icon.

"If the CPC is so good for games then why have companies like Level 9 abandoned the CPC and why haven't EA produced *Populous* for it? Because it is not powerful enough for the modern games. So what if a couple of trashy games fill up an ST disk? I know of a trashy game that fills up both sides of a CPC disk – *Scapeghost*, from Level 9. Compared to something like *The Hound of Shadow* or *Future Wars* (has to be seen and heard to be believed) on the ST, it looks like it was written in 1984!

"So to conclude, I think you should take a leaf out of your sister magazine *ST Format*'s book (bad pun). In that mega-brilliant (it's even better than *New Computer Express*) mag they hardly ever slag off the Amiga apart from when it is absolutely necessary.

"I think what we should do is to make up a personal army to go out and destroy all the *Spectrums*, *C64s*, *Amigas* and PCs as the ST and the CPC are better than all of them put together. Long live the CPC and ST (especially the ST).

"P.S. I would just like to say that normally I do agree with the things you write in your column."

Well, you've certainly got a bee in your bonnet, haven't you Michael? Especially on the subject of games...

For a start, *Hard Drivin'* does run faster on the ST – but it still looks like a Speccy port! And it's interesting that you compare games on the two machines principally in terms of graphics. My reaction to that is that if that's all you're worried about you might just as well plonk yourself down in front of the gogglebox all day and watch cartoons. You might think *Scapeghost* looks as if it was written in 1984, but you don't have a single word to say about how it *plays*. And as far as I'm concerned, that's what matters.

Finally, your remarks about all the major software producers abandoning the CPC because – you reckon – it's an inferior machine are commercially naive, to say the least. Put it this way, faced with the choice of selling games at £25 (*Hound of Shadow*, *Future Wars*) compared with £15 (disk-based CPC games) it's no surprise that some software houses find that the 16-bit grass is greener.

Broadley Brickbats

What absolute and utter codswallop! This woman has no grasp of reality whatsoever! She simply hasn't got the faintest idea what she's talking about...

Is that what you think? Well don't just sit there fuming, write in and tell her! (We're damned if we will.)

BROADLEY BRICKBATS
Amstrad Action
Beauford Court
30 Monmouth Street
Bath BA1 2AP

LEARNING A LESSON

Reading this month's article on educational software was a bit of an eye-opener for me. I must admit, I never realised that so much was available. What strikes me most of all, though, is the marketing potential. (Am I just getting to be a cynical, profit-motivated entrepreneur, I wonder – you would tell me, wouldn't you?) I mean, here we are with hundreds of educational packages sitting on warehouse shelves, and hundreds of *thousands* of CPC owners out there studying at schools and colleges who don't know anything about them! The success of *Fun School II* shows the popular appeal of well-designed educational packages, while some of the subject-specific packages the lads on *AA* unearthed would surely sell ten times as many if only people knew about them.

Educational software should be on the shelves in retailers, not piled up in warehouses.

THERE'S NOWHERE TO HIDE FROM

SLY SPY

Secret Agent

ocean

HIS CALLING CARD IS YOUR INVITATION TO DANCE WITH DANGER!

ocean

A lesson to us all



OK, so your CPC might be great for zapping mutant Bodzoids from the planet Zit, kicking the giblets out of NY low-life and nuking the entire Warsaw Pact with your AH-64 Apache, but there are more worthwhile uses for your machine. Who knows, you might actually *learn* something. TRENTON and ADAM did...

So – you've bought your CPC a 64K upgrade. You've started using ROM software to help it speed through loading. You've even gone to the extent of treating your machine to a second drive – but what's it ever done for you?

Well, it could change the way you view the world – possibly even the way you think – if you take advantage of the vast array of educational software for the CPC. There's a huge choice on offer to the CPC owner, yet its potential has gone largely unrecognised and the important arrivals on the scene largely unsung.



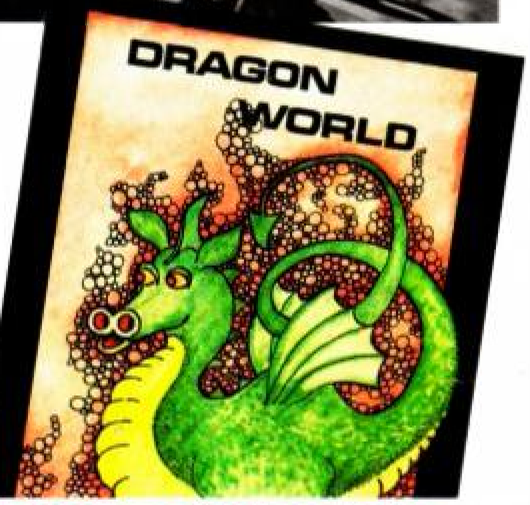
● *The Three Bears*: Riddle-solving for the under-12s.

Primary value

The leading edge of educational software has always been, and will always be, the primary sector. Here, with fewer curricular restraints, it's easy for developers to hit the right spot by teaching the rudiments – the building blocks – on which children will base their educational career. The lack of specialisation means that the potential market is much wider for the same investment.

Under the new curriculum, primary and early learning in schools is now often project-based, leaving little chance for software developers to guess the projects that will be common to most children. So a resurgence of interest in educational packs that stress the basics is definitely on the cards.

Educational software has possibly its greatest potential here. Young children may loathe being sat down and spoon-fed information, but put them in front of a CPC displaying an all-singing all-dancing teddy that wants to tell



● There's no reason why learning can't be fun.

THE IDEAL MACHINE?

The CPC is the logical choice for anyone who wants a machine to learn on and with. It has a huge repository of educational software, for starters, much of it admittedly cloned directly from the BBC. But while the Beeb has the support of the schools, the CPC has all the advantages of being a mainstream machine. Martin Rickitt of Rickitt Educational Media explains: "Its got the memory, the capabilities, the speed and is also hard-wearing, rugged and it's got a lot of software available. There won't be anything like it on the 16-bits for years, and of course there's still the price advantage. On the 16-bits in most cases it's the same program. There's nothing more added. Even the graphics are still basically the same chunky BBC-style, but they cost £20 not £10 or £12!"

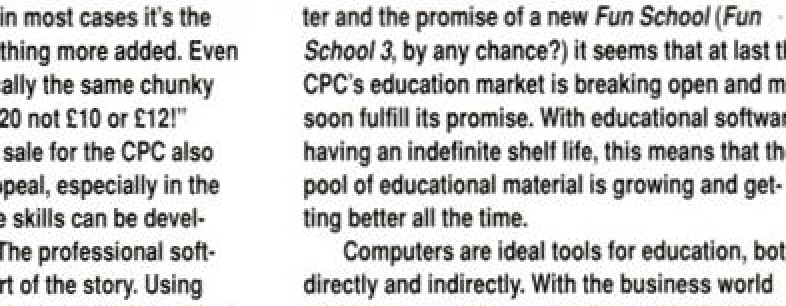
The other software on sale for the CPC also bolsters its educational appeal, especially in the 'experience' market, where skills can be developed almost by accident. The professional software packages are just part of the story. Using your CPC helps in the acquisition of simple skills like keyboard familiarity and loss of 'techno–fear' – ever more essential in the modern world.

What's more, there's a whole new batch of software winging its way across the water. As with all things CPC, it seems that there are few people who actually *recognise* its potential in this country, and we have to rely on others to exploit it fully. This time it's the South Australian Government which has seen the CPC as an ideal educational tool. It's put the machine into schools and has sought out the very best educational software to support it. It's even set up its own publishing company, called Satchel Software.

One of its best and most reliable sources is 4mation, a company ironically based in Britain – Barnstaple, to be exact. Now Rickitt Educational Media is re-importing the master disks so it can bring the best of Oz to our screens. And the good news is that it's still good, even after a 24,000 mile round-trip!

With these titles being added to the CPC roster and the promise of a new *Fun School* (*Fun School 3*, by any chance?) it seems that at last the CPC's education market is breaking open and may soon fulfill its promise. With educational software having an indefinite shelf life, this means that the pool of educational material is growing and getting better all the time.

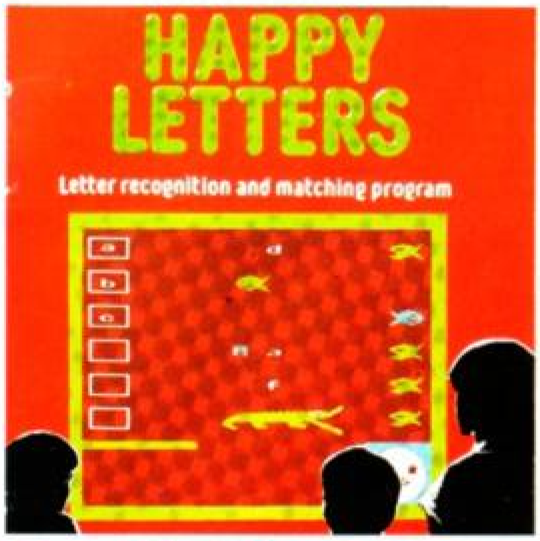
Computers are ideal tools for education, both directly and indirectly. With the business world becoming increasingly keyboard-based, skills in this area alone are worth having. But your machine can also help you learn, teaching in a refreshingly enjoyable manor, whether you're of pre-school age or just brushing up on the Franglais for an exam.



● Martin Rickitt runs the UK's largest educational distribution company.

them something, and they'll listen. This is the edge such programs have over most teaching techniques. It's personal, it's flexible and – if any thought has gone into it at all – fun!

The excellent range of pre-school and primary-level software is enhanced when the

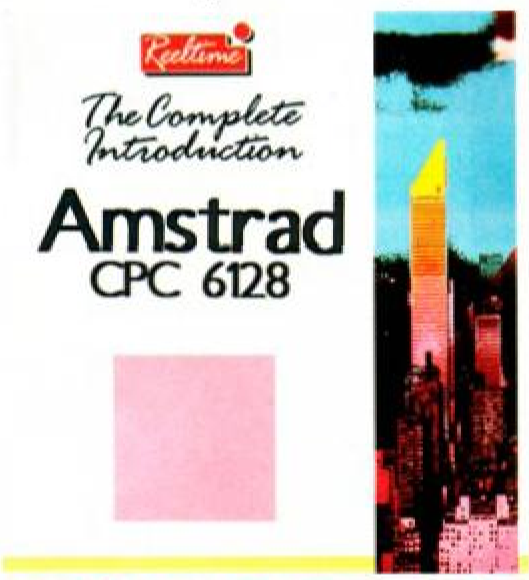


● *Happy Letters* teaches the rudiments of spelling.

range available for the junior (8–11) age groups is examined (*ouch – ed*). Skill-building is made enjoyable by the challenge to explore *Dragon World* or *Granny's Garden*, although once again the structuring is critical if education is to be the result – and not wanton destruction!

"In some programs reward is fairly important, especially in the ones for the younger children" explained Martin Rickitt, a specialist educational software supplier. "You find in a fair number there are negative rewards. When you get something right nothing happens, whereas if you get it wrong then something terrible happens. And the child seems to prefer something terrible than nothing happening, and so ends up trying not to complete the program just trying to make something even more nasty occur!"

This sector leads the market simply because at this age children have got no real

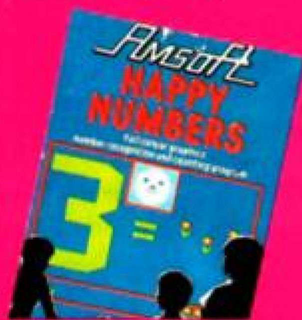


● The CPC is rapidly establishing itself as a mainstream educational computer.

choice in what they do with their computer. But this big stick concept is actually an injustice to the better strata of the educational programs for the under 12s. They are in fact fun to play – indeed many members of the *AA* staff have wasted far too many man hours trying (*and failing – ed*) to solve the riddles in *The Three Bears* and *Dragon's World*.

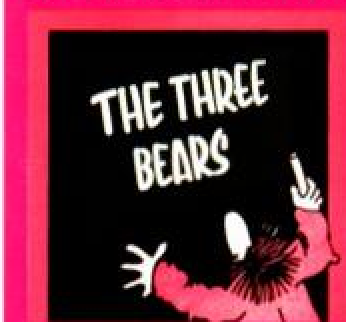
WORK OR PLAY?

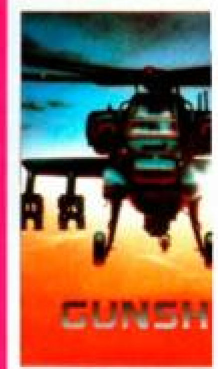
Educational software falls into two distinct categories. Firstly that of that of the dedicated teaching program that seeks to give the user skills and information by guiding them through processes and questions relevant to the topic. And secondly, those which are designed with other purposes in mind, yet teach valuable lessons almost by default.



Infants and juniors can learn to read and count with programs such as *Happy Numbers* and *Happy Letters* from Bourne Educational Software, while juniors are introduced to decision-making with specially-tailored adventures such as the *Three Bears* from School Software and *Caesar's Travels* from Mirrorsoft. Junior-level students have a bevy of *Factfile 500* from Kosmos quizzes and specific skill builders like *Mapwork*, from School Software.

Those pupils seeking a little extra help in the hectic world of the new secondary curriculum can brush up before exams with various revision programs ,even in the tricky areas of Physics and Chemistry. Even CPC-ers over school age can add skills by the bucket load to their CVs, thanks to countless special skill teachers such as the *French Mistress* from Kosmos and general interest packs like Topologika's *Yes Chancellor*, where you get a chance to run (or ruin) the economy.





Other genres, too, have their educational properties, many educationally valuable packages being disguised as games or serious programs. Flight sims and adventures are brilliant methods of picking up a peripheral introduction to a subject without really trying. *Gunship* from Microprose relies on an understanding of the physics and mechanics of modern helicopters to be played to the full. And Toplogika's *Avon* takes you on a guided tour of Shakespeare's stomping grounds, adding life to what would normally be another dull page in a history book.

Packs such as *Supercalc II* and *WordStar* have their place too. They are great in their own right on the CPC, but they also have uses far beyond the scope of the home computer - regardless of its spec. They are industry-standard pieces of software, and an understanding of the way they work will serve anyone well in the future. Certainly there are differences between CPC *Wordstar* and the PC Version 5.5 currently on the rounds in the business sector, but the essential mechanisms are the same, and someone with such a grounding can learn the new features much easier than a person who approaches the program cold.



SCHOOL'S OUT

Strictly educational software (*no canes please – ed*) has its roots in schools, the BBC and – latterly – the Nimbus. It was here that the style of educational software was laid down, so that when other micros became available they logically followed this style.

Recently, however, software has appeared which uses the CPC's capabilities far more fully. Yet the new educational software has been largely overlooked by the press and distributors alike. Which is a shame, as the demand for such software has been growing steadily.



The King David High School in Liverpool uses CPCs in the classroom as a teaching tool.

The school is equipped with a total of 15 464s. They were bought in 1985, the reason being that the CPC offered far better value for money than its



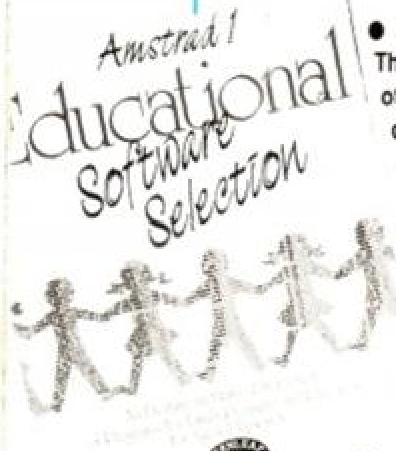
competitors. Tony Burroughs, the school's Information Technology head, explains – "We had a choice of buying either 15 CPCs or around 8 BBC machines. It was important to give hands-on experience to as many children as possible, so the CPC was the obvious choice for quality and value."

And what are they used for? "A lot of software on the CPC is ideal for teaching information technology. Word processors such as *Tasword* are extremely easy to use, and excellent for familiarising pupils with computer packages."

Unfortunately, the lack of publicity/marketing of much educational software means that teachers are still short of information and/or software. "There is a great lack of educational software on the CPC", says Tony Burroughs, "The BBC is the only one machine particularly well supported. This is a great pity, as I know of many schools in the area that have also opted for CPCs."

PLEASE SIR – CAN I HAVE SOME MORE!

Where do you go if you want to get you hands on some of the best educational software on the market? Most software retailers will stock the three *Fun School 2* packages, but for the others here are some suggested avenues to explore:



● **Rickitt Educational Media: The country's biggest distributor of educational software now deals directly with the public. As an offer for *AA* readers, Rickitt will send you a catalogue (retailing at £1 in the local newsagents) and a CPC-specific list detailing everything in its stockroom that even fits in a 3" drive!**
Ring 0460 57151

● **ARC Education: This company's *Master Pack Plus* (£48) contains over 90 programs. It has also put together smaller packs aimed specifically at primary or junior levels.**
Ring 0472 812226

● **School Software: Produces software for all ages, from the *Three Bears* for infants to physics revision for those lucky people with exams this year!**
Ring 010353 6149477 (Eire)

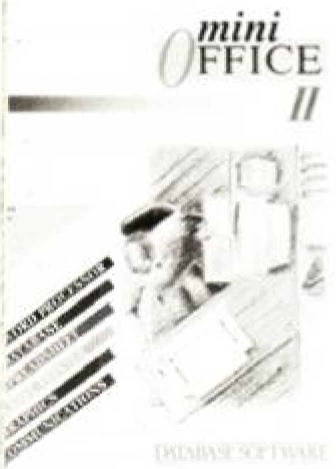
● **Fernleaf education: Specialists in the 7 - 12 age range, mainly of the interactive/adventure style.**
Ring 0474 359037



● **Kosmos: Producer of the *Answer Back Junior Quizzes* on many different subjects, as well as various language packs.**
Ring 05255 3942

Secondary interests

This image problems persists when the jump is made to the secondary level. With all the aliens from the world of games vying for attention and pocket money, it seems a ludicrous concept that anybody would actually chose to buy educational software. But why is this so? Eventually everyone has to revise, or maybe get some help with a particularly sticky bit of coursework. And why stare at reams and reams of notes, or heavy, dull textbooks, when you can be forced to think – a painful but productive process – by a properly-designed tutorial program, and probably get twice the results in half the time.



● Serious packages can teach valuable office skills at an early age.

OK, the computer might not replace that physics textbook that's currently propping up the piano, but in question-and-answer sessions ("learning by doing" as John Jennings of School Software, an experienced educational publisher, calls it), you can retain and learn more information much more quickly. A CPC will take the writer's cramp out of the learning by rote which is part of every chemistry/biology/physics syllabus ever devised.

A CPC can help with those dull hours spent slaving away over homework, as well as making the learning enjoyable (or as enjoyable as possible). A word processor can help you speed faster through essays, and offers the chance for greater accuracy and structuring, not to mention presentation. The graphics facilities of packages like *Mini Office II* might help with projects in topics like economics, for example, with its graph and accounting programs.

The learning (exam-oriented) programs even continue beyond standard schooling, providing support especially for those studying English. Software exists to cover everything from the classic plays of Shakespeare to the not-so-classic poems of Gerald Manley Hopkins.



Even those of us who have long since walked out of the school gates can get a helpful hints and advice from the machine. CP/M tutorials and beginners guides are there for any who feel the need. While for *Protext* there are tutorials in how to get the most from your word processor. The large selection of programs available from PD libraries allow experimentation in countless areas at next to no cost.

Home on the Range

Home-based educational software – i.e. that not designed solely to support school work, but meant to be used for its own sake – has never managed to make the breakthrough. It still lacks the clout of either serious or games software in the eyes of distributors and retailers. Yet there is undeniably a market for this type of product, initially from parents, but also from those who simply want to approach learning from a slightly more enjoyable angle.

Part of the blame lies with the magazines, which are either not geared to cope with reviewing educational products or lack the expertise to give anything other than a punter's-eye-view of the program. More importantly, there is the lack of availability – quite simply, you can't buy what you can't see!

AA'S FAVES

There's a bewildering choice of software out there, and it can be difficult to pick the best. While we've only seen a selection of what's available, the following products get the official *AA* seal of approval.

● For the nippers

Fun School 2 • Database Software • The three programs in this suite are suitable for age ranges 4 to 10. Each package has eight programs which concentrate on a different aspect of learning.

Caesar's Travels • Mirrorsoft • Caesar (a cat) gets booted out by his owner and you have to guide your feline friend to a new home. This interactive story requires plenty of decisions to be made on the way, and comes complete with a story book

The Three Bears • School Software • Baby Bear's been captured by the wicked witch, and you're the only one who can save him. Nicely presented program that encourages problem solving. Can you bring him back home safely?

Dragon World • 4mation • Enter the realm of the dragons and find the five sacred dragon teeth. Designed more for the classroom than use at home, this wonderful package comes complete with an activity pack so that a whole project can be based around the program.

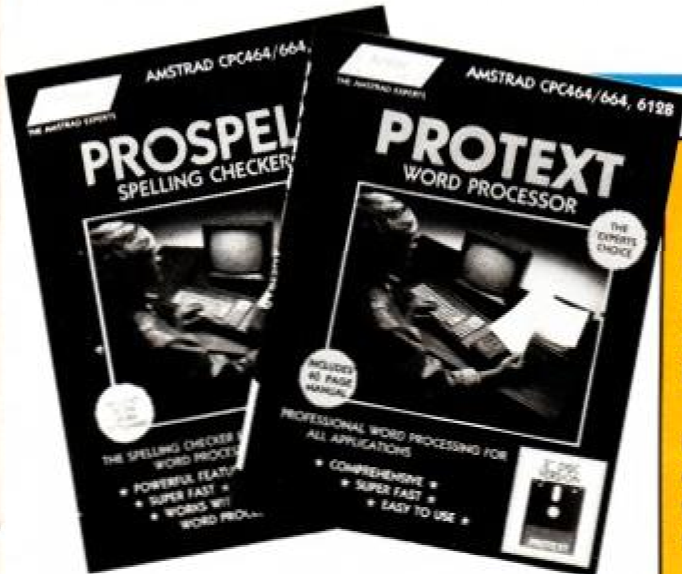
● Older children

The French Mistress • Kosmos • Translate English to French, and Francais au Anglais in this language translation program. A selection of lessons guide the pupil through different stages of difficulty. Note that the software is designed to be used in conjunction with textbooks, and doesn't aim to teach the complete beginner. Also in this series are *The German Master* and *The Spanish Tutor*.



Software Selection • Fernleaf Educational Software • Seven educational programs for junior school learning.

Each program concentrates on a separate theme, and these vary from the building of a Roman fort to the financial management of a market stall.



● Tutorial disks are available to help with many top commercial packages.

Software shops demand high-profile, high-volume, quick-turnover titles, not steady sellers.

As boss of the country's largest distributor of educational software, Martin Rickitt knows this problem only too well. "We've got accounts with about 200 to 300 shops. The number who actually put educational software on their shelves, as opposed to getting it in to order, is very small. To start putting a good range for one machine on your shelves, then you're talking about a lot of valuable space. Then when you try to do that for every format, a shop just can't do it. There is some potential for some of the early learning shops, but even if they only stocked *Fun School 2*, you're talking about 50 different programs. It's a logistical nightmare, and they wouldn't have the necessary expertise".



With games there are only eight formats to sell on. Education, with its broader machine base, requires more shelf space than most retailers can afford to surrender. Yet this doesn't have to be so, as the now famous *Funschool 2* proved. It was aggressively marketed, clinically designed for maximum shopper appeal, and the sales force twisted arms, begged and cajoled the product onto the shelves.

Once it was there people saw it and bought it. It had good general appeal, was solid – if not revolutionary – software and was generally available on all formats. A lot of investment went into establishing a market – which curtailed profits – but for the first time educational software was within a till's reach of the consumer.

"We just couldn't get hold of enough at Christmas (*Fun School*). The reason it was successful that it was available on all formats. If you had a computer then you could have a *Fun School*. It's got a bit of everything on it. It's ideal, for example, for grandparents who don't know a child's strengths and weaknesses. It doesn't matter, you buy a *Fun School* and it's got everything on it. It's the name and the concept that sold it!" was Martin Rickitt's explanation for the phenomenal sales.

LEARNING WITH LOGO

Logo is a language designed essentially for teaching children, and was developed in the 1960s by Seymour Papert at the world-famous Massachusetts Institute of Technology.

The principle behind LOGO is that the student issues commands to the computer, which in turn controls a graphical environment. The results of the users' instructions are carried out graphically, building up shapes and patterns on-screen.

Simple commands, such as FD for forward and RT for turn right, direct the actions of a pointer or 'turtle', which leaves behind a trail, forming a permanent record of its movements.

The turtle is so called because the original devices were electronic buggies that moved along the floor rather than on a monitor screen, and used a pen to mark out their trail.

These wheeled robots were usually encased in a turtle-like dome-shaped shell – hence the name. The physical devices were used because in those early days a high resolution display was unheard of. Computers were capable of displaying only text-based screens. The advent of computers like the CPC with far superior graphical capabilities was the force that made these primitive devices obsolete.

LOGO is a list processing language. Simple steps are built up in the form of procedures – a programming structure that can be broken down into smaller and simpler steps. An elementary procedure could draw a square on screen which, in turn, could form part of a program that puts together complex three-dimensional geometrical shapes.

LOGO certainly isn't the sort of language that you'd write a word processing package in, but it is an ideal learning tool – and is ideal especially for CPC owners, as it's supplied free on disk with the 128K machines!

The version supplied is written for the CPC by Digital Research. Dr Logo is a special implementation of the language, with commands added to take advantage of such CPC-specific features as sound and colour graphics.

FUN SCHOOL EDUCATIONAL SUCCESS STORY

There is one program that stands head and shoulders above the rest in the education stakes: *Fun School 2*.

A year ago, when the educational market had dwindled away to almost nothing, Database launched a series of three educational programs for young children. Much to everybody's surprise – not least Database's – the package was an instant success, smashing its way into software charts usually the exclusive domain of games.

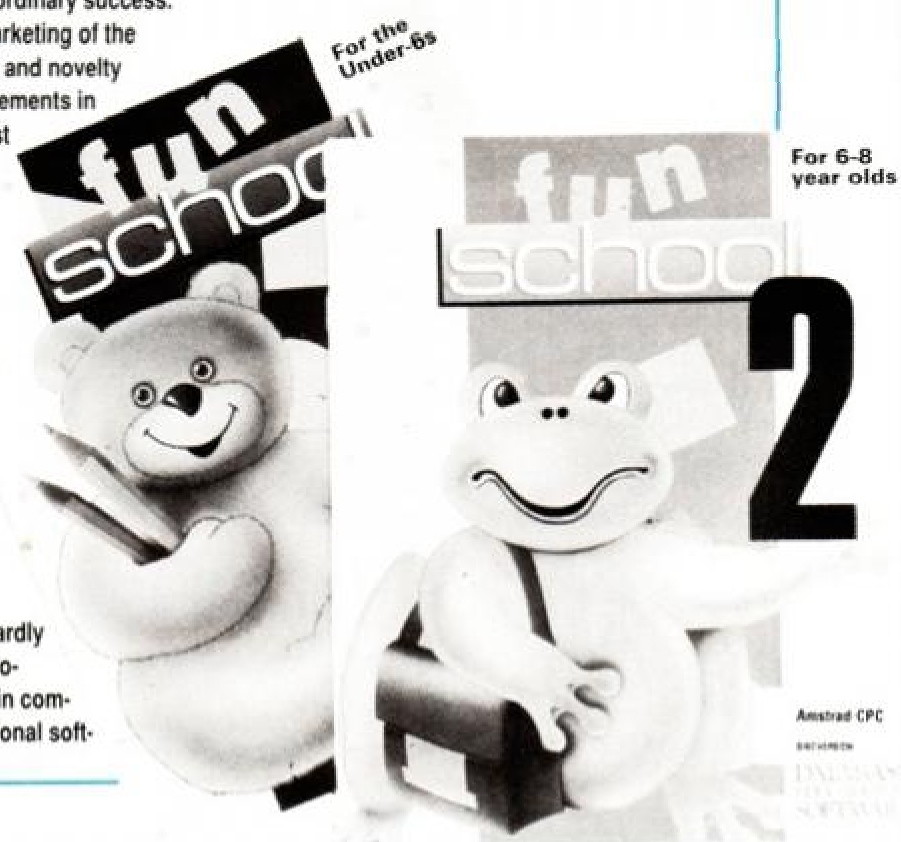
The programs have sold more than 100,000 copies to date between them, an unprecedented amount by any standards. It's hard to define the reason for *Fun School 2*'s extraordinary success. Database puts it down to the marketing of the product. A bright, attractive box and novelty badge, full-page colour advertisements in the computing press, and – most importantly – actually getting it into chain stores like Smiths and Boots. It became a product that people were aware of and could see in the shops. In addition, it has been released on a wide range of computers apart from just the CPC.

The eight programs on each disk are of good quality too, having been designed by educationalists.

Although *Fun School 2* is hardly state of the art in graphics or programming, it positively gleams in comparison with majority of educational software. Previously, much educational software looked as if been written by the kids that were going to use it.

There are three programs in the *FS2* series, covering the under-sixes, six-to-eight year olds, and over-eights. This gives the titles wide popularity for all ages.

It's a great pity that not all educational software is of the standard of the *Fun School* programs. There is some good stuff out there, but you'll have to be cautious before you shell out your hard-earned cash. If at all possible, it's wise to try before you buy.



FORUM

ADAM WARING picks another crop of technical teasers...

● Dossing around

As well as a CPC, I also use an IBM PC clone. My question is, will MSDOS work on a CPC464 with the DD-1 disk drive?

Thomas Chambers
Wolverhampton

No. You haven't a hope in hell of getting MSDOS to work on a CPC.



● Can you make your CPC compatible with a PC? Not on your Nellie...

● Out of line

I am writing with a query regarding the word processor program included on the cover tape given away with the Christmas issue of *Amstrad Action*.

I have an un-expanded Amstrad CPC464 and an Epson LX-400 printer. The difficulty is that of obtaining a hard copy. On selection the program returns the error message 'Printer Off Line', when in actuality the printer is on-line. The problem seems to be in line 2290 of the program where INP(&F500) should not be equal to 30. Presumably this is some indication to the ROM that the printer is on-line.

I have REMed out this line, and so have been able to obtain a hard copy of any document. Though the program is working, I would be interested to know if it is possible to use it as originally written, or why I get the 'Off Line' message.

One further point regarding the printer. I have been unable to access printer codes beyond chr$(128). Would the KDS printer port be suitable for use with the Epson LX-400?

John Forsyth
Bath

Sorry about the bug in the word processor. It seems that the print option works with some printers but not others (It worked with our 120D). Try changing the beginning of line 2290 from `IF INP(&F500)<>30` *to* `IF INP(&F500) AND &40`.

As far as I'm aware, the KDS port will work with any standard Centronics printer, and I can't see any reason why it shouldn't work with the Epson LX-400.

● Office job

I have just bought a second-hand Seikosha GP-250X printer for my CPC464 and I am looking for a program that can do bar charts and the like.

I was thinking of buying *Mini Office* or *Mini Office II*. Could you please tell me the differences between these, and whether they would both be compatible with my printer.

I would also like to know the address of a company where I could order printer ribbons from.

Simon McCarthy
Warrington
Cheshire

Mini Office II *is an enhanced version of* Mini Office. Mini Office II *can do everything that the original could, but more neatly. It also has built-in comms software for transferring data to other computers, and a label-printing program – which must be useful to somebody. Both will work with your Seikosha.*

Have a rummage through the pages of our sister magazine New Computer Express. *There are plenty of companies advertising printer ribbons in the* Shopping Express *section of the magazine.*



● *Mini Office II* gives more professional-looking results than its predecessor.

● Disk doctor



I have a very useful tip for disk drive owners. Sometimes, especially in old disks, when we try to load a program we find the fatalistic Read Fail. In such cases I use a disk editor to repair the damage, but what happens when the bad sector is in the directory area? The disk becomes useless.

This was my case, and I decided to try anything with it, because it couldn't get any worse. I pushed back the piece on the side of the disk that opens the metallic shutter, and I examined the surface of the disk itself. If the bad sector is on side A then you have to look at side B of the disk as the magnetic disk head reads from the bottom of the disk drive. I turned the disk until I found a part which wasn't perfectly clean. Then I passed a piece of cotton wool soaked with a little alcohol over the surface of the disk and spread it over the dirty area. I then waited until the disk was completely dry and there were no marks on the disk at all. Viola! The disk worked again!

Of course, you can try this method every time you have a bad sector (firstly back up all existing information), but you risk damage to other sectors. So I prefer to do it only when the disk is totally 'lost'.

I realise it's an unsophisticated method, but every time I've tried it the disk has been cured, twice at any rate.

Noel Llopis Artime
Luanco
Spain

I would like to stress that readers should try this only as a last resort, but if everything else has failed then you have nothing to lose!

● Repent ye Pirates

I own a CPC464. Recently several of my copied games ceased to load properly, and crashed. All my other games work perfectly.

Is it the fault with the cassettes or the computer tape recorder, and is there anything I can do to rectify this problem?

Jack Maxwell
Aviemore
Scotland

It's clearly an act of God that your pirated software won't work. The only way to rectify the problem is to visit your local software shop and buy the games you want to play.

● A load of old COBOLers

I am interested in COBOL and was wondering if there are any recommendable books or packages on the subject. I have a CPC464.

D Carter
Hednesford
Staffs

The only implementation of COBOL for the CPC that we know about is the public domain version from WACCI. You don't say whether you have a disk drive for your 464, but you'll need one to run COBOL as it's a CP/M program. If anybody knows of a tape version then you'll let us know, won't you?

● Transfer Trauma

I currently own a CPC 664 with 64K memory expansion and use CP/M+ extensively. I, and a colleague, have become very proficient Z80 programmers using *Devpac 80* but now need to transfer all our accumulated data onto MSDOS 360K format disks for use on an IBM.

I contacted various suppliers, read many magazines and have finished up totally confused due to the conflicting information I have received.

My requirements are simple. I need to be able to transfer from 3" CP/M 2.2 and CP/M⁺+ system disks onto 360K 5.25 inch from within CP/M+. This appears to exclude RODOS – although I have not got a Rombox to use this. It was suggested that a downloading service be used, but the amount needing transfer outweighed the cost of a drive.

I would therefore be grateful if a drive and appropriate software could be suggested.

B Kantor
Bristol

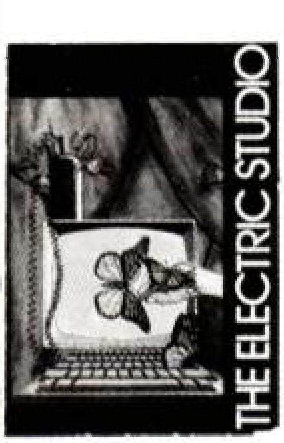
Unfortunately, the external drives for the CPC and the disk drives on the PC are incompatible, as they use different file formats.

Until now, that is. Siren Software is currently working on a utility that will allow its second disk drives to read and write to PC format disks. The program, if things go according to schedule, should be finished by the time you read this. When the product becomes available it will work with both 3.5-inch and 5.25-inch disks, and 360K or 720K formats.

However, as you're programmers, you may want to transfer your files to the PC for use with the PDS assembler. It is a relatively simple matter to transfer the files through the parallel interface. Use the up-load option from the PDS monitor to grab from the CPCs memory and save as an ASCII file:

```
U>filename,start,length
```

I used this method to transfer all my source code when I changed to using PDS without problems.



● Electric Studio's *Light Pen*. You even get an art package thrown in.

● Light up my life

If I bought one of the various light pens available for my CPC464 with disk drive then would I be able to use it from BASIC with my own programs? I have a good knowledge of BASIC, but at the moment have little knowledge of machine code.

If this is possible then which one do you recommend without being too expensive?

Gareth Watts
Norwich

The Electric Studio Light Pen includes a special machine code program that reads the light pen's co-ordinates for use from your own BASIC programs. It costs £19.95 for the tape version, and what's more you get a very reasonable art package in the process!

● Summing up

On the *AA* Christmas covertape you included a program called *Type-Writer*. This program produced a check-sum after each line was typed, which could be compared with the check-sums that appeared in the *Type-Ins* section of *AA*.

I loaded the program and typed in ten pin bowling (*AA49*). When I ran the program I found the check-sums still appeared after the text that appeared on screen, making the game impossible to play. Could you please tell me of a way to prevent this?

Ian Kelleker
Cork
Ireland

You only need to use Type-Writer *to check the listing once. When everything tallies with the check-sums then save the listing, reset the machine and run the program. It will now work perfectly well without* Type-Writer's *help.*



● Want to transfer files to 5.25-inch disk? See *Transfer Trauma...*

● What a dump!

I see that in the February issue of *AA* (*Forum*, page 23) you advise Steve Crocker of Huntingdon that there is no facility to print out screen dumps from BASIC.

In fact it is possible, and I wrote a short BASIC program back in 1985 when I was using a CPC464 and Shinwa CP80 dot-matrix printer. The listing is best included as a subroutine which can then be called by a GOSUB 9000 command. The whole screen will be reproduced upright (across the page), not sideways as is usually the case.



However, the routine does have two limitations. The first is that because it is a BASIC program it is very much slower than machine code and one may as well make a cup of tea while the program is doing its job. Secondly, the background colour (or other predominant ink) must be set to zero. This will reproduce as white, the other colours as black.

A further point to remember is that different printers may use different control codes, and unless the Mannesmann Tally MT80/CP80 or similar printer is used some ammendments may be required.

Philip Jimenez
Norwich

```
9000 ' SCREENDUMP FOR MT80/CP80 AND SIMILAR
     PRINTERS
9010 WIDTH 255:PRINT#8,CHR$(27)"3"CHR$(19)
9020 DIM b%(638)
9030 FOR v%=399 TO 7 STEP-7
9040 FOR u%=0 TO 638
9050 b%[u%]=SGN(TEST(u%,v%))*64+SGN(TEST(u%,v%-
     1))*32+SGN(TEST(u%,v%-2))*16+SGN(TEST(u%,v%-
     3))*8+SGN(TEST(u%,v%-4))*4+SGN(TEST(u%,v%-
     5))*2+SGN(TEST(u%,v%-6))
9060 NEXT u%
9070 PRINT#8,CHR$(27)"K"CHR$(127)CHR$(2);
9080 FOR u%=0 TO 638
9090 PRINT#8,CHR$(b%[u%]);
9100 NEXT u%
9110 PRINT#8
9120 NEXT v%
9130 PRINT#8,CHR$(27)"@"
9140 ERASE b%
9150 RETURN
```

Thanks Phil, it works well, but as you say, it's bit on the slow side.

● Reading and Writing

Can you tell me how to erase a read-only file with my 6128. I gather from the manual that you can do this with CP/M but it seems as clear as mud so far as the details are concerned.

The reason I ask is that I have discovered a fault in the Amsoft DLAN program. On one of the fonts the Q has been corrupted and has lost its tail.

I have redesigned this letter with the character generator, but I cannot re-save under the name DLANCODE.BIN due to the presence of the read-only file of that name already being on the disk.

Malcolm Pike
Fareham
Hampshire

The CP/M SET command is used to change file attributes. Firstly you must change the file status from Read Only to Read and Write. Insert side one of your CP/M disk and type:

```
SET B:DLANCODE.BIN [RW]
```

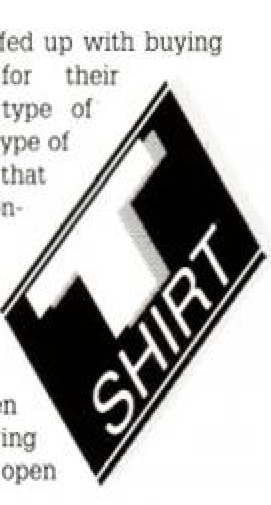
You will be asked to insert disk B into the drive. Put your DLAN disk in and press Return. The file will now be read/write status and you will be able to save your new file onto the disk. If you wish to protect the modified file from accidental erasure then the command:

```
SET B:DLANCODE.BIN [RO]
```

Will set it back to read-only status.

● I Ink therefore I am

If any of your readers are fed up with buying new printer ribbons for their DMP2000, or any other type of printer that uses a similar type of ribbon, this is a tip that extends the life of them considerably.



You must first open the case that contains the ribbon – any end will do – and you can do this by inserting a knife between the case joints and prising gently apart. Be warned: open

carefully or the small rollers inside will shoot all over the place. All you need do now is squirt a small amount of WD40 or a similar product onto the foam sponge pad and close the case again.

Run the printer through a file a few times on some spare paper to spread the ink evenly. You should find that the ribbon lasts longer after this treatment than it did originally.

I would not advise this as regular treatment for ribbons as the pins in the printer head need a silicon-based ink to lubricate them. So after using WD40 once I then use the spray ink as advertised in this magazine and then WD40 again, thereby prolonging the life of the ribbon and saving a considerable amount of cash.

Dennis Titman
Wakefield
West Yorkshire

A similar method exists for most printer ribbons. If there isn't a sponge pad inside then don't worry too much, just spray the ribbon directly.

● Clubbing together

I have been tinkering around with my CPC for a couple of years now, and have become quite proficient in machine code. I enjoy playing games, but am interested in the serious aspects of computing too. I was wondering if anybody else in my area is involved in a computer club. I would like to become involved to swap ideas and meet people with similar interests etc.

By the way Adam, I thought your game *Lost Caves* was brilliant! (*'Bout the only one who did – ed*)

Laura James
Weston-Super-Mare
Avon

If anyone is involved in a computer club anywhere in the country then let us know, and we'll give you a bit of free publicity!

I know, and at only £2.99 it's a bargain too!

● Cracked Code

Trying to type in the sprite routines listed in February's edition of *Cracking the Code* (*AA*53), there were some op-codes which the assembler did not understand. These are ADD &8, ADD &50, ADC &C0 and LD B,(DE). As far as I know ADD and ADC add a number to the accumulator, and LD B,(DE) should be LD A,(DE). Do 'sprite width' and 'sprite height' refer to the number of pixels or to the number of characters?

Is it possible to switch off the disk-drive on the 6128 from BASIC, using an Out command.

Kenneth Scicluna
Fgura
Malta

Some assemblers will assume that all operations where a register isn't specified refer to the accumulator. The LD B,(DE) is not a valid instruction. Replace it with LD A,(DE) followed by LD B,A. We've had Michael clapped in irons and flogged.

As far as I can tell from Michael's listing, the width is in bytes and the height in pixels. This may seem odd, but it is the convention that most programmers use because it is the quickest to execute as no further operations need to be carried out.

Switching the disk motor on and off is a simple matter from both BASIC and machine code. The motor is controlled by port &FA7E. OUT &FA7E,1 switches it on. OUT &FA7E,0 switches it off again.

● Writing Process

Could you please help me! I have no experience in computing except for the very basics. I would like to know if there is a program available for typing. If there is could you please give details of the cheapest one for the Amstrad CPC464.

Also could you tell me how to print the information from the screen onto paper. I would be very grateful for your help.

Shabia Khanom
London



● No word processing system is complete without a printer.

What you need is a word processor. This is a program that allows you to type in text, perform various operations on it, save it to tape or disk, and print it out. A simple word processor appeared on the Christmas cover cassette. One of the cheapest word processors that you can buy is Mini Office. This is available for only £2.99, and includes other goodies such as a database and spreadsheet.

To print your text out onto paper is a rather more expensive affair. You will need to buy a printer, which can cost anything from £100 upwards. See our Buyers Guide for further details.

● Type -in Typo

Wishing to give every encouragement to new readers to use your *Type-Ins*, I would like to point out that if half your readers are 464 owners then 19,000 of them will be unable to get the version of 'Type-Writer' on your Christmas cover tape to work. The offending lines are as follows:

Line 40. Alter c$ to h$

Line 110. Alter LEFT$(c$,1) to LEFT$(h$,1) for both the "Y" and the "y" equation.

Line 40 should produce the code EiBp, and 110 should give AqBv. Of course you will only be able to get these codes when your program works.

I have only written this letter because there was no mention of the problem in last month's issue.

J Heath
Knaresborough
North Yorkshire

Well spotted! We apologise for that boo boo, and hope it hasn't caused too much trouble.

● Out of line

Please help! I've had a problem for a while and it's driving me nuts! I've got a CPC464 with a 'Superpower' ROM card and Toolbox ROM and recently I've purchased the *Protext* word processing ROM. I have also linked to this little lot an Epson RX-80 F/T printer.

However, ever since I've had the printer it has always form fed an additional line so all the lines come out double spaced. I've disabled the Carriage Return and Line Feed DIP switch in the printer so it is now switched to carriage return only, but it still persists in double-spacing the lines. I have also had the printer linked to a BBC computer and it performed with no problems and no extra form feeds.

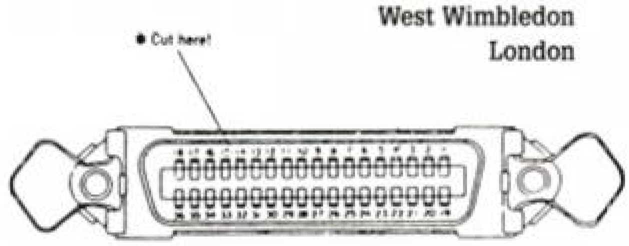
With *Protext* however I thought my problems were solved by selecting line spacing zero. It printed beautifully with no extra lines (by sending a control code to stop the extra form feeding) but it will no longer initiate page breaks automatically.

Please tell me if there is a fault with my 464 that it keeps sending extra control codes or is it a fault with the printer. If you think the fault is with the computer could you tell me if it rectifiable?

Is it possible for you to give me an address for Epson as I have mislaid my RX-80 F/T manual, and would like to try to get another one.

One last point to ask you. What is the maximum length printer lead possible to connect with a 464 before there are problems with printing (On top of the ones I've already got!).

David Lea
West Wimbledon
London



Not that old problem again! We last printed the solution in AA50, so I suppose it's about time to print it again.

This fault is peculiar to the CPC range of computers, and happens with many different makes of printer. The AUTOFEED line is constantly held low by the CPC, hence the printer always 'sees' a line feed with every carriage eturn.

To solve it, pin 14 of the printer port must be disconnected, either by cutting the wire in the printer cable that goes to that connection, or by masking the pin with a bit of sellotape.

You can contact Epson at: Campus 100, Mayland Avenue, Hemel Hempstead HP2 7EZ. *The telephone number is 0442 61144.*

You don't generally get data skew problems with computer cables, so you can have the cable any reasonable length.

WHAT ARE YOU WAITING FOR? Get those tips rolling in – the best one each month wins a massive wad (£20!), while runners-up each get an ultra-fab *AA* T-shirt. Don't be seen without one!


MARVEL COMICS
MARVEL COMICS® & PARAGON SOFTWARE® PRESENT
PARAGON SOFTWARE
the AMAZING SPIDER-MAN® and CAPTAIN AMERICA® IN
PREPARE TO DIE!!
Screenshots taken from various computer formats.
Free Marvel comic book destined to become a collector's item, available by return.
DR. DOOM'S™ REVENGE!
Available for SPECTRUM, AMSTRAD, C64, AMIGA, ATARI ST, PC and Compatibles.
EMPIRE
EMPIRE SOFTWARE · 4 THE STANNETTS · LAINDON NORTH TRADE CENTRE
BASILDON · ESSEX · SS15 6DJ · PHONE (0268) 541126
Copyright © by Marvel Entertainment Group, Inc. All Rights Reserved. Marvel, Spider-Man, Captain America, Dr. Doom and the distinctive likenesses thereof are trademarks of the Marvel Entertainment Group, Inc. and are used with their permission. The AMAZING SPIDER-MAN AND CAPTAIN AMERICA IN DR. DOOM'S REVENGE is produced under license from the Marvel Entertainment Group.

AA SMALL ADS

For Sale

PACE Nightingale Modem and Amstrad RS232 Interface. Complete with leads and instruction manuals. £95 o.n.o. Tel: Leeds 0532 420208.

MAGAZINES Computing with Amstrad July 1986/Oct. 1987, 1988 complete A.C.U. July 1986/March 1989. Amstrad Action 13 23-26 29-51 Singles £1.00 plus postage. Bulk discount. Penny, Watford, 0923 247464.

CPC6128 colour monitor, books, mags, 3 joysticks, over £500 worth of games and software worth £1200. Sell for £375. Tel: 061 427 3191 after 6pm. Ask for Steve.

DO-IT-YOURSELF. Learn Basic programming. Get this 16 A4 page intro for £3. For CPC, Beeb etc with notes for Commodore & Spectrum. Cheque, PO, or wee parcel of 3 coins to: J. H. Taylor, 18 Seahill Road, Holywood, Co. Down, BT18 0DA.

CPC464 colour monitor. Good condition, games and serious software, joystick, £190. Tel: Boo, 061 434 8400 (Manchester)

FIRMWARE manual CPC464, discs, tapes, original games, back numbers A.A. and other magazines since 1985. Phone for list: Herts, Graham 0707 331827, after 6pm.

THE programme for small business accounts - many features - 6128 disc - if you need to save time and trouble on bookwork, phone for full details A.B.C. Software 0934 516714. Introductory offer £23.00 inc. VAT.

PRINTER driver from Basic, 33+ RSX's, suitable for Epson compatible printers. Send CF2 disc and £2. For other printers send disc, £2.50 and your control codes. Phone Stephen 0403 783496.

PACE Nightingale modem plus RS232 Interface. All you need for online Comms. As new £80 or exchange FDI drive +£25. Fareham (0329) 284281 (Evenings).

GENUINE bargain! CPC6128 with colour monitor, joystick, firmware manual, Maxam and games discs, blank discs, cassettes/deck, all excellent condition, yours for £230. Sorry no split. Phone Chris on (01) 340 6087.

CPC464 colour monitor, over £400 worth of games, all new titles, magazines, books, Quickshot joystick and Lightpen. Everything boxed, only a year old. Telephone: 0727 30905, (any time).

CPC6128 colour monitor, second disc drive, AMX mouse, Art Studio, Tasword, Masterfile and Mini-Office, joystick and some games, v.g.c. £325 o.n.o. Phone 0373 812018.

CPC6128 mono monitor, 2nd disk drive, RS232 interface, AMX mouse, Datacorder, joystick, Firmware manual, Stop-Press, Tasword-6128, Masterfile-III, Devpac-80 plus other titles. £350 o.n.o. Phone Henry 01 593 7975 after 7pm.

EDUCATIONAL Pack 1 - including ten mathematical programs + Maths Master. Subjects covered: Areas, Ratios, Series etc., £5.95 (Any format) including manual. Suit ages 9-14. Cheque: M. Pinder, 4 Wham Hey, New Longton, Preston, PR4 4XU.

CPC6128 Double Disc Drive, parallel printer lead, serial interface, discs, Mini-Office, Cobol, C. All boxed £200 or possibly split Cheltenham 0242 577680.

CPC6128 green monitor T.V. modulator, joystick, 15 games and utilities, manuals, books, magazines, dust covers, excellent condition, bargain £150. Phone Southampton (0703) 251014 evenings.

CPC6128 colour monitor, games, discs, Protext, Devpac, CP/M+, DKTronics 256k extended memory, joystick\ all manuals and books, £280. DMP2160 printer: £100 or £350 together. Tel: 01 630 7536 (Tony) evenings/weekends.

AMSTRAD PCW 9512, includes WP Shareware and Daisywheel printer, unwanted gift, still boxed £460 (No offers please). Also DMP3000 printer, little used £100 boxed. Phone (0438) 727753 (Herts).

CPC464 colour monitor, disk drive, Multiface II, over 70 games, dust covers, manuals, books, blank discs, A.A. issues 16 onwards, sell £400 o.n.o., sorry no split. Ring 01 567 1221 evenings.

CPC6128 modulator, printer, AMX mouse with StopPress, Multiface 2, joysticks, tape recorder and leads, disc box and over 20 discs full of games, lots of mags, most boxed £400 o.n.o. N. Howell, 1 Turner Road, Biggin Hill, Kent, TN16 3EX.

FOR the bright Amstrader 50+ Chess problems and competition for Colossus 4 or Cyrus II chess programs. Send £5 for tape and competition details to: E. Nelson, 63 Seacourt Rd., Larne, BT40 1TE.

READY Reckoner to know what the odds accumulated to. For patent - Heinz Yankee doubles, trebles etc. Send £1.99: 14, Ipswich Road, Colchester, Essex, CO1 2YD.

User Groups

AMSTRAD CPC users. Dedicated magazine, free Public Domain software and a host of friendly help and advice. Send SAE to: United Amstrad User Group, 26 Uplands Crescent, Fareham, Hants, PO16 7JY.

Services

HAVING problems loading tapes, discs or C.D.'s? Send S.A.E. with game and £1 for tapes, £2 for discs, £3 for C.D.'s: K.T. Glover, Rose Cottage, Thistle Hill, Knaresborough, N. Yorks, H95 8JW.

Wanted

PUBLIC Domain software wanted for C.P.C. disc or cass. send a disc or tape with software on, with a return S.A.E. and we will return to you something of interest on your disc or tape. Send to: DEE, 4 Westmeads Road, Whitstable, Kent, CT5 1LR.

Other

PRINT-OUT - over 40 pages of interesting articles for all CPC users. Includes 30 pages of BASIC and machine code programs and utilities as well as tips, reviews, special offers and much more. Costs 70p + A4 S.A.E. (28p) form PRINT-OUT, 8 Maze Green Road, Bishop's Stortford, Herts.

MAKE money without working hard. Start your own full/part-time business from home. No experience needed, for details, S.A.E. to: MPS, 10 Llandow Road, Ely, Cardiff, CF5 5ET.

AA SMALL ADS

This section offers you a really cheap and effective opportunity to speak direct to 35,000 CPC owners – or would-be owners. Users report excellent results.
You can place an ad up of up to 30 words for just **£5**.

So you could use it to sell a printer, launch a user group or advertise a piece of software you've written.
One thing you can't advertise is the sale or swap of software. Such ads can be misused by pirates.

Fill in the application form and send it to us together with payment.
We'll place the ad in the next available issue (published 2-7 weeks after we receive your order).

ORDER FORM

SEND TO AA SMALL ADS, FUTURE PUBLISHING LTD, BEAUFORD COURT, 30 MONMOUTH STREET, BATH, AVON BA1 2AP

Please place the following advertisement in the next available issue of *Amstrad Action*

Name ____________________

Address ____________________

____

____

Telephone ____________________

I enclose payment of £5.00 by Cheque/ P.O/ Access/ Visa

Credit Card number ____________________

Credit Card expiry date ____________________

Classification. Tick box: ❑ For sale ❑ Wanted ❑ Services ❑ User Groups ❑ Other

Write your advertisement here, one word per box. Include your name and phone number if you want them

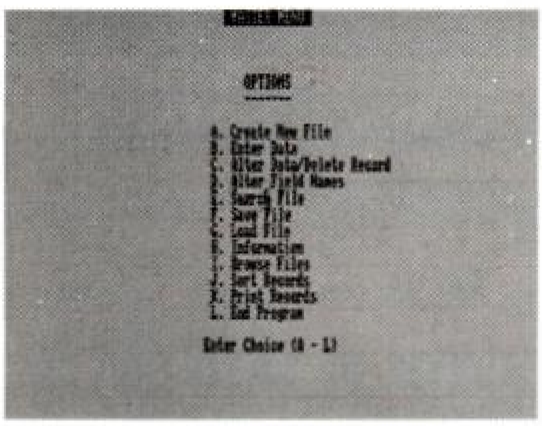
Free for all!

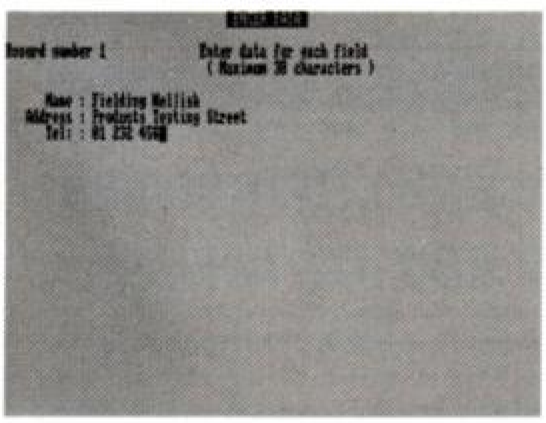
The response to last month's item on David Wild's *Desk* was staggering. JERRY GLENWRIGHT brings you not only the address of the man himself, but yet more treats from the public domain...

● Rank and file

Word and document processing may be the largest use to which personal computers are put, but what do you think comes second on the list? Games, spreadsheeting, education perhaps? Not a bit of it. The second largest use for the humble micro is the database. Everyone from housewives to parish priests need to keep files of information which they can access, sort and store easily and efficiently – witness the rise of the FiloFax during the last decade. So what better use for your friendly little CPC than to have it take all the hard work out of cataloguing stamp collections, keeping track of computer club memberships and helping you bring order to your burgeoning collection of train numbers?

Datafile, a public domain database written in BASIC, is one of the best databases around. The programming is fully menu driven and idiot-proof, and enables you to create huge databases containing many data items and sort and retrieve them at the touch of a button. To start a new database, you decide how many fields each record is to have (a field is one piece of data that makes up a record, i.e. a name and address record might have Name as one field, Address as another and Tel: as one more). *Datafile* will allow records consisting of up to 16 seperate fields and each field can be up to 60 characters long, so there's plenty of

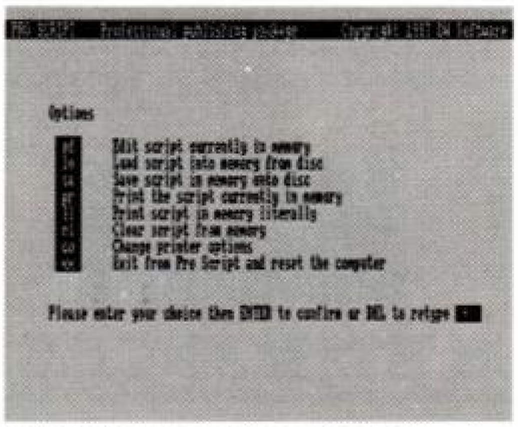




● *Datafile* offers extremely simple record entry.

DW DOCUMENT PROCESSOR

I've had a fantastic response to last month's review of the ST-lookalike program *Desk*, by David Wild, with many of you clamouring to get hold of a copy. We've managed to track down the prolific Mr Wild and you can find his address and telephone number in the *Where To Go* box at the end of this feature. And because David Wild's work proved so popular, I'm going to kick off this month's PD column with a look at *ProScript*, a word processing program from Wild's PD Library, DW Software.



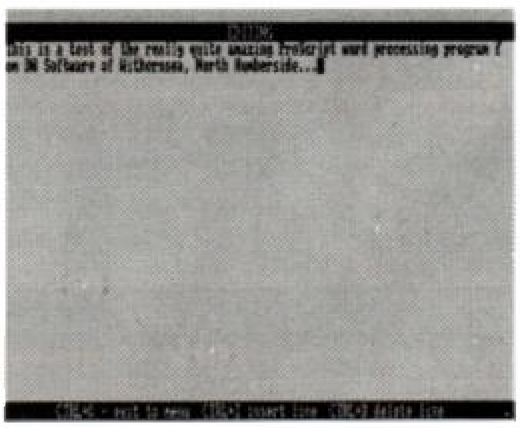
● *Proscript*'s comprehensive main menu.

A couple of years ago, document processing became a popular buzz-word in the computer industry. Somewhere between ordinary word processing and full-blown desk top publishing, document processors enable you to create fancy letters, menus, party invitations, business cards and the like, without learning complex DTP principles.

ProScript is a document processor for the CPC – and everything from ordinary text cut and paste to delicate kerning and leading operations can be performed within its environment! The program opens with a menu offering such options as editng a document (i.e. creating a new document), loading an existing document from disk, saving a document to disk, printing and so on. Electing to edit a document brings up a text window with an information bar at the top of the screen and several command options listed along the bottom. To create a letter, menu, party invitation or whatever, you simply begin typing. Any character or word can be prefaced by a style instruction such as change font (Times, Pica and many more), centering, enbolden, underline and so on. The bottom command bar enables you to return to the main menu at any time simply by pressing a control key combination (CTRL Q), and from here you can also insert or delete a line.

Moving around your document is no more difficult than using the cursor keys, and printing is a simple matter of returning to the main menu and selecting either a literal or normal print. The former prints your document with all style and positional information. The latter outputs exactly what is on your screen to the printer minus any style commands.

One of the most exciting features of *ProScript* is its ability to print text in several columns simply by stating where you want to start subsequent columns on the page – in effect resetting the left margin. In order to print multi-column documents easily you need access to an Epson or compatible printer that can handle reverse line feeds. But you can still take advantage of the feature by marking where the next column should start with a pencil and manually repositioning the paper in the printer. A drag, right? But at least those of you without Epson printers don't miss out on the goodies, so don't complain. Other wow effects include justification and automatic formatting, proportionally spaced text, underlining, inverting, kerning and leading and 17 fonts which can be used anywhere on the page. *ProScript* really is the ultimate in upmarket word/document processing and is available for... not very much. Not £29.99, not £14.99, not even ten quid! No Missus, to you, only £8. It isn't PD, but it's so cheap, who cares? And because *ProScript* isn't public domain, you get a complete paper-based manual included in the price. Novelists, hacks and the plain interested should beat a path to the *Where To Go* box right now (why are the 'interested' always described as being plain?).



● *Proscript* offers full word-processing power.

scope for quite complex data to be stored efficiently.

After deciding the number of fields in a record and their character lengths, you're prompted for the names of each field, then returned to the main menu. From here, you can start to enter data. Selecting Enter Data produces the first field name as a prompt. You type whatever information you wish to store and are then prompted with the second field and so on. Simple, huh? At any time, you can change the names of fields by simply typing over their names.

The database can be sorted using any field (surname for example), printed either in whole or single records and you can view one record or browse through the entire database using the cursor up and down keys.

Datafile is a simple – yet powerful – database that is a pleasure to use, even for large amounts of data. The program supports all printers and is public domain (I downloaded it from the TUG II bulletin board). If the ephemera of your life is currently overflowing half a dozen cardboard shoe boxes, then *Datafile* is the program for you.

WHERE TO GO

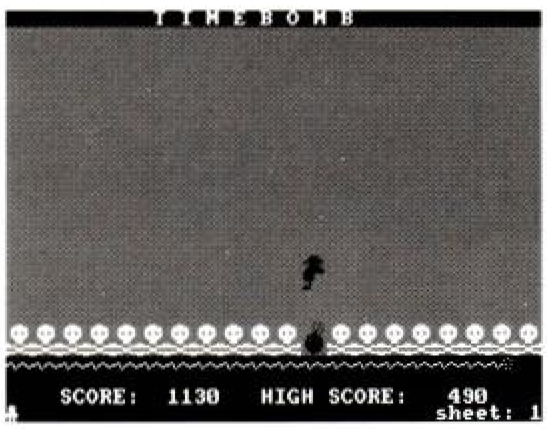
- WACCI UK, 9 South Close, Twickenham TW2 5JE. Telephone 01 898 1090. As well as being a public domain library, WACCI is a fanzine of truly singular quality. Bung a couple of quid to 9 South Close and you'll receive a sample issue with the PD lists contained therein. But do it today, becuase the WACCI library is a CPC-specific library second to none in the UK.
- DW Software, 62 Lascelles Avenue, Withernsea, North Humberside HU19 2EB. DW is the source of the marvellous WIMP environment desktop reviewed last month, as well as an gargantuan grab bag of other quality programs. Six clams will get you a PD disk positively bulging with superior software.
- Got a cassette-based system, and feeling left out of the fun? Tough! No, no, don't shuffle away sulking. Send a blank cassette and 40 new pennies to Robot PD llbrary – the only cassette-based public domain library in the known Universe – and you'll receive a tape jammed packed with goodies. If you're one of those retiring careful types who consider the idea of sending off *40p!* to an unknown address absolutely outrageous, you can send for a free catalogue by contacting the above address (at least include a stamped addressed envelope, huh?).
- The CP/M User Group, 72 Mill Lane, Hawley, Dartford DA2 7RZ. The best CP/M user group in the UK and they have lots and lots of quality PD. Bung them a few quid for a copy of the latest newsletter.
- TUG II 0905 775191 V21/22/22bis/23 8N1. A bulletin board with a lively CPC section and a large amount of downloadable code. The board operates for 23 hours a day (what's this guy doing for the other hour?), so you should be able to make contact.

● Drop the bomb

Timebomb is a little PD game with one very special added ingredient – fun! The action takes place on a full screen grid of 'buttons' with skull and crossbones dotted around and one timebomb.

At the beginning of each round you're placed at random on the screen and must get to the timebomb before the fuse burns down and the bomb explodes. Sounds easy? Well it isn't. Each time you pass over a button it is blanked out and you're not allowed to pass over it again. This severely hinders your movement around the screen. And if you inadvertently touch any of the skulls and crossbones you're killed instantly.

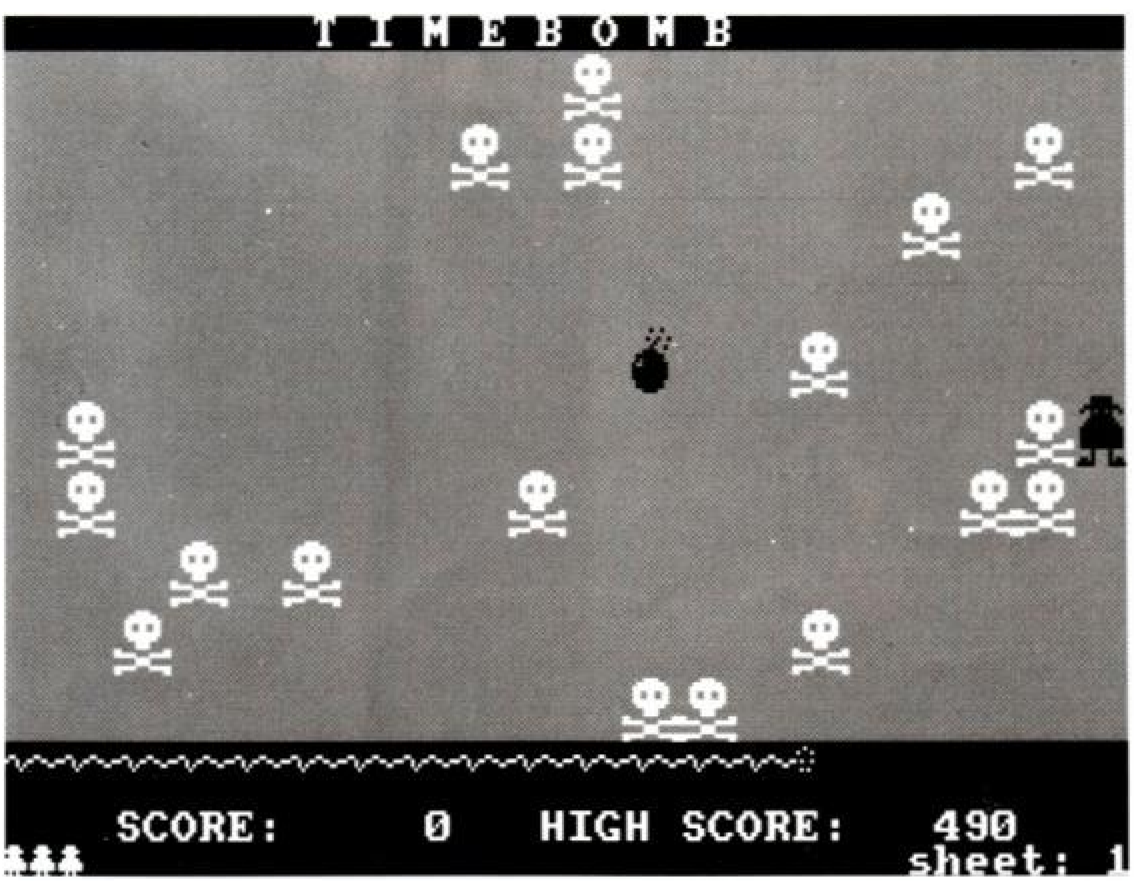
After clearing several screens of bombs, you're given the chance to earn some bonus points by collecting a timebomb on a special screen. This time, you simply hurtle along the very top of the screen. There's a row of death's heads at the bottom with one space occupied by the bomb. You must send your little character spinning down the screen at just the right moment to collect the bomb. Slightly early or late and you'll drop straight onto one of the waiting skulls. Lots of fun and very addictive.



● *Timebomb*'s between-level bonus screen.

● Twist or Stick?

Arcade action is exciting, but sometimes you just want to sit back and *think* about what you're doing. *Pontoon* enables you to do exactly that. Not much to say about the game except that it's another one of David Wild's creations, there's a full screen graphical representation of the playing cards and the computer plays a thoughtful and strong game (my 6128 won every Swan Vesta in the box!). Screen updates are fast so you can get on with the game without having to wait for the cards to be drawn. Pontoon is on PD Disk 2, from DW Software.

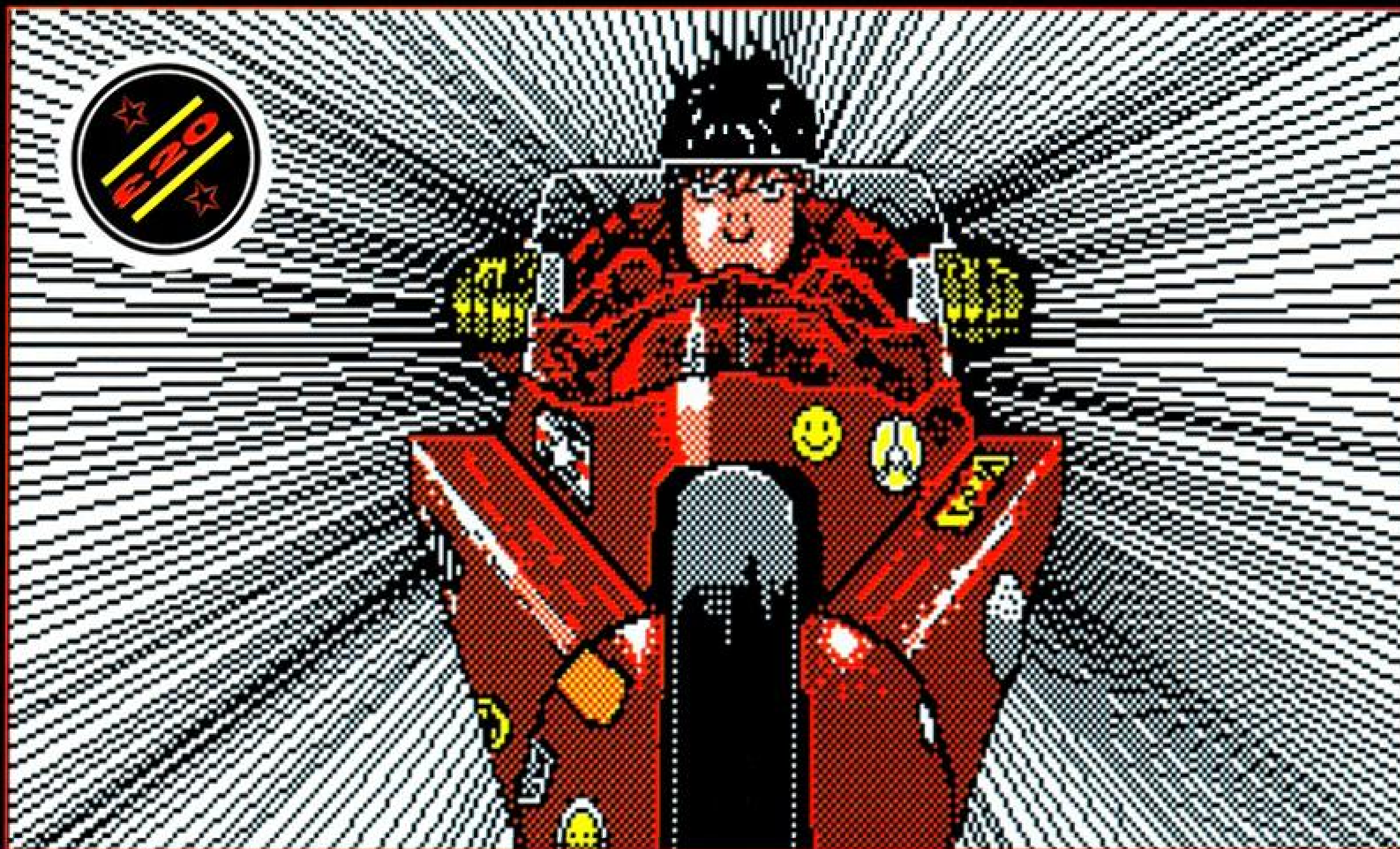


● Can you reach the timebomb in time?

DOING THE BAUD-WALK

PD is free sure, but you do have to pay quite heavily for the cost of disks and reproduction. Isn't there a way to bypass even those charges? Well, it just so happens that there is, but you need to have a modem. Astute readers will by now have digested the solid information contained in last month's comms feature, but for those of you recently back from a tour of Outer Mongolia (we get there too, but about a month late...), here's one of the benefits of taking an interest in comms: you can download public domain software free! That's right, no disk or duplication charges. Bulletin boards are free too, so what's the catch? Unfortunately, you do have to pay for telephone calls and Ma Telecom doesn't exactly indulge her subscribers, but if you're wise and only log on during the hours of darkness, you should be able to swell your PD collection without incurring too much expenditure. The *AA* listings appear on many of the boards too, so you can download those and save yourself the trouble of all that typing. Bulletin boards – just one more way to get your hands into the wonderful world of public domain.

GALLERY



● Fans of the Japanese comic will Instantly recognise Martin McCanney's *Akira*. He uses the ever popular *Advanced Art Studio* for all his pictures.

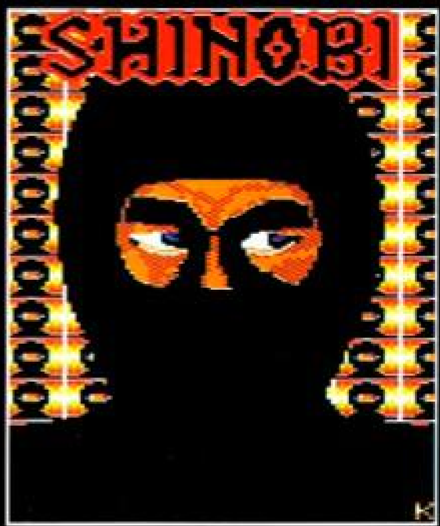


● The loveable rogue was drawn by Tim Paul of Lichfield, Staffordshire. The mutated mega-hero is an *AMX Stop Press* creation.





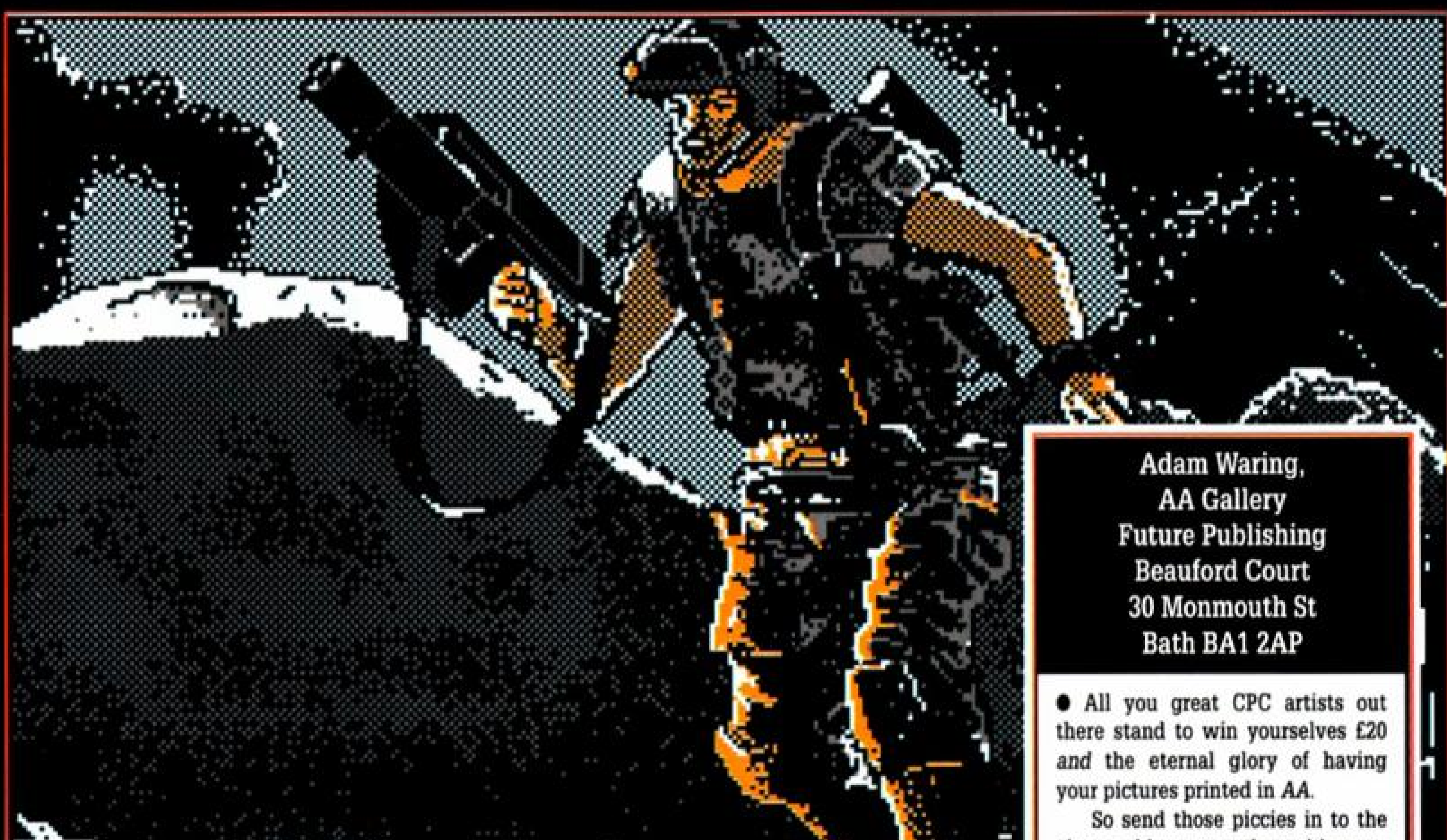








● Gary Marshall from Swanwick, Derbyshire, must be a Harrison Ford fan. He drew the *Star Wars* and Indiana Jones piccies. Batman and Zig & Zag come once again from Martin McCanney.The Beetle comes from Adam Lewin of Harrogate, and the *Shinobi* picture from David Knight of Birmingham.



● Martain McCanney of Co. Dublin, Ireland has been very busy indeed this month. His final contribuiton is Hicks from *Aliens*.

Adam Waring,
AA Gallery
Future Publishing
Beauford Court
30 Monmouth St
Bath BA1 2AP

● All you great CPC artists out there stand to win yourselves £20 *and* the eternal glory of having your pictures printed in *AA*.

So send those piccies in to the above address, together with some brief notes on the paint package and any special techniques you used – and don't forget enclose an SAE if you want your disk back.

A SMALL SELECTION FROM OUR WAREHOUSE

HARDWARE & PERIPHERALS (OFFERS WHILE STOCKS LAST)

	RRP	WAVE	
Amstrad CPC464 Green with joystick & software	199.99	177.96	ANC
Amstrad CPC6128 Green with joystick & software	299.99	269.95	ANC
Romantic Robot multiface 2+ - CPC	47.95	35.96	E
MP-2 modulator/power supply - CPC464/664/6128	29.95	PHONE	C
CT-1 Clock/Radio (matches MP-3 Tuner) - CPC464/664/6128	--.--	8.49	C
DDI-1 1st 3" drive inc. interface & cable - CPC464	159.95	127.97	B
PL1 lead, printer centronics parallel - CPC/+3/+2A	14.95	7.48	F
Star LC10 parallel F&T NLQ printer (reqs. PL1 lead)	297.85	152.74	A
Genius Mouse & adv. art studio disc + mat & house - CPC	49.99	44.99	D
RAM/DK'tronics 64K RAM expansion - CPC464/664	**49.95**	**38.96**	**C**
Amstrad 40025 O.S. chip to upgrade 464/664 to 6128	**--.--**	**29.56**	**E**
Amstrad C510 Computer desk	25.00	12.50	ANC

DO YOU WANT TO SAVE MONEY, THEN SEND FOR OUR TRADE PRICE LIST

STATE FOR WHICH PRODUCTS AND ENCLOSE 3 20P STAMPS

BLANK DISCS & SOFTWARE

Any 3 tapes for £5.64 + £1.74 P & P

World Class Leaderboard, Auf Wiedersehen Monty, Summer Games, Spy Hunter, World Games, Gauntlet 2, Fantasy World Dizzy, Pub Trivia Sim; BMX Sim. 2, Monty Carlo Casino, Arcade Flight Sim; Frankenstein Jnr; Wizard Wille, Moto X Sim; Pro Powerboat Sim; Pro BMX Sim; Fastfood, Treasure Island Dizzy

MAXELL 3" DISCS BOX 10 DS FOR ALL 3" DRIVES + FREE PRICE LIST

RRP £29.90 **ONLY £17.64 + £1.15 P&P**

Database Mini-Office 2 Disc - CPC		19.95	11.97	E
OCP Advanced art studio disc - CPC		22.95	16.07	E
Amsoft 3" Discs DS/ALL 3" Drives + FREE price list	Box10	29.90	20.63	E
Verbatim 3.5" DS/DD 135 TPI Bulk Discs C/W Labels	Pkt10	25.00	8.75	E
Verbatim 5.25" DS/DD 40/80T Bulk Discs C/W Labels	Pkt25	27.27	7.36	D
Amstrad Amscase Library case holds 10 3"		7.95	3.58	E
Ams30L Storage box holds 15 cased/ 30 uncased 3"		14.95	7.90	D
Datafile 80 Storage Box holds 50 3"/80 3.5"		23.77	6.54	D

Eng. Mainland post & ins. : (A)£5.75 (B)£4.60 (C)£3.45 (D)£2.30 (E)£1.15 (F)58p (ANC) 3 Day £10.35 Next Day £13.80, COD + £2.30, Max. UK post chg. £6.90 per 20kg/£500. ALL PRICES INCLUDE VAT.

All sales subject to our Trade Terms of Trading.

W.A.V.E. (Trade Dept. AA 490)

WALNEY AUDIO VISUAL & ELECTRICAL DISTRIBUTION,
1 Buccleuch Street, Barrow-In-Furness, Cumbria, LA14 1SR.
Tel: 0229-870000 (6 lines) Hours: Mon-Fri 10.00-5.00.

ASTROLOGY for beginners

Teach yourself astrology using your Amstrad

Buy a Starter pack comprising a simple program to calculate a horoscope, an introductory booklet and 2 self-teaching programs (how to interpret the horoscope).

ONLY £12.50 No previous knowledge required
For ALL Amstrads (CPC, PCW, PC, PPC)

Payment by Access / Visa, Cheque, P.O. Please state make of computer or send s.a.e (about 9"x7") for free catalogue giving details of our wide range of programs for
PROFESSIONAL ASTROLOGERS
including complete natal interpretations and forecasting.
Also **I CHING, GRAPHOLOGY, BIORHTHYMS, etc.**

ASTROCALC

(Dept A/A) 67 Peascroft Road, Hemel Hempstead, Herts HP3 8ER England. Tel: 0442 51809

STRATEGY SOFTWARE

Strategy games for the Amstrad CPC

BATTLE OF THE BULGE - is a simulation of the last major German offensive in the west when they attacked the allied forces. The options are 1 or 2 players with over 140 units involved. The types of units are corps, infantry, motorised infantry, armoured, anti-tank, artillery and cities. The size of these are divisions and Regiments and have ratings for strength, quality, provisions, fuel and moves. There are also different weather conditions, supply and air phase, save game and a detailed manual. All of this is set on a scrolling map which has different terrain. Map size is 40 x 40.

OPERATION BARBAROSSA - simulation of the war between Germany and the Soviet Union which started on June 22, 1941. There are four different armies which are German, Rumanian, Finnish which represents the Axis; and against these are the Soviets. Options are 1 or 2 players. There are over 130 units. Unit types are infantry, motorised infantry, corps, armoured and cities. Ratings for strength, quality, supplies, fuel. Each turn represents one week with four seasons, summer, autumn, winter, spring. Air phase, Supply phase and Winter phase. Save game. Detailes manual. All of this is set on a scrolling map which is 43 x 47 and covers the Eastern Front from Warsaw to Stalingrad and from Helsinki to Bucharest. Terrain features are sea, rivers, mountains, marshes, cities.

CANNAE 216 BC - is a battle between the Carthaginians and Romans in Southern Italy in August 216BC. Options are 1 or 2 players with 50 units involved. Types of units are light infantry, heavy infantry, light cavalry and heavy cavalry. These have different ratings for strength, quality, morale, fatigue and moves. Each turn represents one hour. All of this is set on a scrolling map which has different types of terrain and is 25 x 27. Also save game option and a detailed manual.

THE FINAL CONFLICT - conflict between Nato and the Warsaw pact in Europe.

SOCCER 6128 - football strategy game manage any team in the four divisions.

KURSK THE CLASH OF ARMOUR - WW2 battle between the German and Soviet armies.

SOFTWARE HIRE CLUB - we hire out games. Send large S.A.E. for details.

BATTLE OF THE BULGE	£8.00 (disk)	£7.00 (tape)	
OPERATION BARBAROSSA	£8.00 (disk)	£7.00 (tape)	
CANNAE 216 BC	£8.00 (disk)	£7.00 (tape)	Disk not available
THE FINAL CONFLICT	£8.00 (disk)	£7.00 (tape)	for 464 diskdrive
SOCCER 6128 For 6128 only	£8.00 (disk)		
KURSK the clash of armour	£8.00 (disk)	£7.00 (tape)	

State machine type. Add 60p outside UK or £1.60 outside Europe per game.
Cheques or Postal Orders Payable to **STRATEGY SOFTWARE**
Send to - **STRATEGY SOFTWARE (AA), 32 ALBERT STREET, SEAHAM, CO DURHAM, SR7 7LJ.**

Soft Exchange

MAIL ORDER ONLY 01 653 0534 MAIL ORDER ONLY

£1.45 EACH OR 3 FOR £3.99

Blood Valley
Indoor Sports
Biggles
3-D Chess
G. Capes
Strongman
Ninja Massacre
Motor Massacre
BMX Simulator
Adv. Pinball Sim.
Super Hero
Big Foot
G. Prix Sim.
Pro-Ski Sim.
3-D Starfighter
Death Stalker
Fruit Machine
Mission Jupiter
Int. Rugby Sim.
A.T.V.
Pro-Snooker
Planet of Death
Souls of Darkon
Inca Curse
Starion
Shockway Rider
Jockey Wilson's Darts
Max Headroom
Impact
Armageddon Man
Yes Prime Minister
Rally Simulator
Shadowy Swimmer
123
Hit Squad
Yogi Bear
SAS Combat
Elevator Action
Antriad
Thurst
SAI Combat
Codename Mat
World Games
BlackBeard
Alien Break In
Into Oblivion
Feud
Avenger
Master of Lamps
Future Knight
Micro Value 4
European S.A. Side
Zynaps.

CASSETTES ONLY

Thunderbirds	£4.99	Dragons Lair 1	£3.99
Con. Circus	£4.99	Dragons Lair 2	£3.99
Ninja Warrior	£5.99	Last Duel	£6.99
Galaxy Force	£5.99	Road Runner	£6.99
Powerdrift	£6.49	Jack the Nipper	£2.99
Shinobi	£6.49	Bedlam	£2.99
Nemesis	£6.49	Run the Gauntlet (c)	£6.99
Cluedo	£2.99	Blasteroids	£6.99
Monopoly	£2.99	Evening Star	£2.99
Scrabble	£2.99	Nexus	£2.99
Scalextric	£3.49	Star Raiders II	£1.99
Samurai Warrior	£3.49	Not a Penny More	£2.99
Bubble Ghost	£2.49	Gargoyle Classics	£2.99
Rex	£2.49	War in Middle Earth	£6.99
Running Man	£3.99	Arcade Force 4	£6.99
Wizard Wars	£2.99	Rod Pykes Collec.	£4.99
Renegad 3	£3.99	Go Crazy (6 games)	£4.99
Wizball	£3.99	Flight Ace (4 games)	£4.99
F. Manager	£3.49	Driller	£2.99
Super Hang On	£2.99	Pyroword	£2.99
Circus Games	£3.99	Stiff Lip & Co.	£1.99
Thunderblade	£5.49	Melbourne Draw	£2.99
Super Sports	£2.99	The Sydney Affair	£2.99
Pacland	£4.99	Max Headroom	£1.99
Bionic Commando	£3.99	Football Man. 2	£4.99
Netherworld	£2.99	Outrun	£4.99
G. Prix Selection	£5.99	Gemini Wing	£4.99
Offshore Warrior	£3.49	4 Soccer sim	£3.99
Titan	£3.49	Afterburner	£4.99
Hercules	£2.99	Barbarian	£3.99
Victory Road	£3.99	Druid 2	£1.99

GAMES ON DISC

6 Pack Vol 3	£9.99
Afterburner	£7.99
Galaxy Force	£7.99
Real Ghostbusters	£7.99
Overlander	£6.99
Hopping Mad	£6.99
Shinobi	£9.99
Altered Beast	£9.99
Super Scramble	£9.99
Basketball	£9.99
Baseball	£9.99
Classix 1	£8.99
Navy Moves	£11.99
Chap. Sprint	£12.99
Movie	£4.99
Eye	£4.99

Maxell Blank Disc
£2.25 each or
£20.99 for 10

AMS 30L Storage Box
£10.99

	CASS	DISC
Beverly Hills Cop	£6.99	£10.99
Bloodwych	£6.99	£10.99
Cyberball	£6.99	£10.99
Myth History in Making	£6.99	£10.99
P47 Thunderbolt	£6.99	£10.99
Rainbow Island	£6.99	£10.99
The Champ	£6.99	£10.99
The Biz	£11.99	--.--
Kick Off	--.--	£11.99
Chase H.Q.	£6.99	£10.99
Ind. Jones Last Crus.	£6.99	£10.99
Turbo Outrun	£11.99	--.--
Batman the Movie	£6.99	£10.99
SuperWonderboy	£6.99	£10.99
Ghouls 'n' Ghosts	£6.99	£10.99
Op. Thunderbolt	£8.99	£11.99
Wild Streets	£8.99	£12.99
100% Dynamite	£10.99	£1.99
Complete Games Centre	£7.99	£10.99
Hits	£10.99	--.--
House Mix	£7.99	--.--
In Crowd	£10.99	--.--
Oriental Games	£6.99	£12.99
Star Wars Trilogy	£12.99	£16.99
Story So Far 2	£10.99	£12.99
Story So Far	£10.99	--.--
The Bizz	£10.99	--.--
Thrilltime Gold 1	£7.99	--.--
Thrilltime Gold 2	£7.99	--.--
We Are Champions	£10.99	£12.99

Orders under £5.00 add 50p P&P. Send Cheque/P.O. to:

Soft Exchange
101 Clifton Road, South Norwood
London, SE25 6QA

ROMANTIC ROBOT *present*

multiface two

RESET · STOP

If you wish to **FREEZE** a program any time, **BACK** it **UP** to **disk/tape**, *fully automatically*, at a touch of a button, then the **MULTIFACE TWO** is the **ONE** and **ONLY** answer! It is *extremely simple to use, idiot-proof, menu driven* with *on-screen instructions*, 100% reliable - **PURE MAGIC**...

Just **RUN** any program, **STOP** it by the **FREEZE BUTTON**. **SAVE** *PROGRAM* or *SCREEN* to disk/tape, or use built-in **MULTI-TOOLKIT** to study, **POKE** infinite lives, ammo, etc. When you **RETURN** to the program or **RELOAD** it next time, it will automatically **CONTINUE** from where frozen. You DON'T need to do ANYTHING - just push the button, name the program, insert disk/tape and press a few keys. **MULTIFACE** works on **ANY CPC**, needs **NOTHING extra**, but in order to prevent piracy, it *must be attached* to your CPC to **RUN** the programs it **SAVED** - see the box below!

NOW ON SPECIAL MAIL ORDER SALE at just £42.95!

£10 OFF the MULTIFACE 2

Do you need to know what happens **ANY TIME** **INSIDE** a *RUNNING* CPC program? **Get INSIDE INFORMATION!**

Install **INSIDER** into *MULTIFACE 2*, **RUN** a program, let *Multiface* **FREEZE** it and the **INSIDER** tell you everything: it fully *disassembles*, *finds* text or code, *shows/alters* **RAM** and **Z80** registers, *dumps* to printer, etc. All this and more for ~~£14.95~~. Now on **SALE** for just **£9.95**

Invaluable tool for machine code users!

A unique de-bugging/development aid.

The **INSIDER** has no use for piracy - see the box below!

ROMANTIC ROBOT THE INSIDER

£5 OFF

THE RODOS SYSTEM

Would you like to be able to attach additional disk drives - 40/80 track, single/double sided, 5.25 or 3.5 or 3 inch - and store up to 800K per disk? All controlled by a powerful DOS? Have RANDOM ACCESS to your files? Get a PRINTER BUFFER and SILICON DISK and a ROM manager and over 50 new bar commands! All this on a single ROM.

Now also available: RODOS EXTRA on disk for only £9.95. Any RODOS owner will find RODOS EXTRA indispensable. It offers nearly 200K of valuable information how to get the most out of RODOS, with examples of RODOS applications ranging from simple to complex such as a DISK DOCTOR or IBM MSDOS DISK READER. The indispensable EXTRA!

£10 OFF

You MUST NOT use any of the above products to copy, reproduce or infringe in any way any copyrigh t material without the clear permission of the copyright owner. We do neither condone nor authorise the use of our products for the reproduction of copyright material - to do so is ILLEGAL!

KRAZY! £10 OFF the MULTIFACE and RODOS! £5 OFF the INSIDER!

I order a **Multiface** ☐ ~~£47.95~~ **£37.95** **Rodos** ☐ ~~£29.95~~ **£19.95** Rodos **Xtra** ☐ ~~£9.95~~ **£6.95** **Insider** ☐ ~~£14.95~~ **£9.95** + **p&p**!: UK **£1**, Europe **£2**, Overseas **£3**.

I enclose a **cheque/PO/cash** for £............. or debit my **Access/Visa** No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ Card Exp.............

Name/address...

The above reduced prices apply strictly only to MAIL ORDERS received by 31.3.1990.

ROMANTIC ROBOT UK LTD 54 Deanscroft Ave, London NW9 8EN ☎ 24 hrs **01-200 8870**

3½" DISC DRIVE ONLY £79.95

800K STORAGE PER DISC **PLUS £3 CARRIAGE**

Because the 3½" disc is now the industry standard, their cost is getting lower all the time. CHECK OUR CURRENT PRICE! You can take advantage of this with our top brand TEAC 3½" drive. Using it together with either ROMDOS, RAMDOS or RODOS, you can store 800K of files on each disc, and without even having to turn it over.

In its sleek white case the drive measures a mere 6¾" x 4" x 1¼" (including its feet) and is supplied with leads and power supply. All that you have to do is plug it in and use it.

Please state 464, 664 or 6128 when ordering. This drive is NOT suitable as a 1st drive on the 464.

NOTES

3½" discs do not turn over like the 3" ones. The drive uses both sides but to you it looks like 1 huge side.

ROMDOS (rom) £29.95
RAMDOS (disc) £24.95
RODOS - see Romantic Robot
3½" DISCS ....10 for £7.50
(carriage free on these items)

NOTES

RAMDOS must be used for CAM work - RAMDOS is supplied with ROMDOS.

PROTEXT and RODOS don't work correctly together.

464 Only — *The amazing* **ROMBOARD XTRA** *Including* **6128 UPGRADE SOCKET** — 6128 Rom £22.50

FEATURES 6 Standard ROM Sockets
plus - Put a 6128 ROM in the 7th socket and you have a working 6128 operating system. Upgrading is as simple as that!
plus - 464/6128 selector
plus - Cold start RESET BUTTON
plus - Through connector for further expansions

ALL THIS FOR JUST £20

6128 ROM £22.50 **64K RAM PACK £49.95**

EPROM PROGRAMMER

only £30 inc. p&p

Create your own ROM based software on 16K, 8K, 21V & 12.5V EPROMS. Easy to use, menu driven software. No external power supply needed.

MICROSTYLE

DEPT. AA, 212 DUDLEY HILL ROAD, BRADFORD, BD2 3DF.

tel: 0274 636652 (after 2pm).
Prestel mbx. 219999114

DISCOUNT SOFTWARE

from M.J.C. SUPPLIES

DISC GAMES

MJC SPECIAL
Gazza's Super Soccer
RRP £14.95. Our Price £9.95
Offer ends 31/03/90

After the War	10.95
Batman The Movie	10.95
Carrier Command	12.95
Chase HQ	10.95
Coin- Op Hits	14.95
Double Dragon	10.95
Fiendish Freddy	10.95
Ghostbusters II	10.95
Hard Drivin'	10.95
Jack Nicklaus Golf	12.95
Knight Force	10.95
New Zealand Story	10.95
Powerdrift	10.95
Scapeghost	14.95
Scrabble De Luxe (6128)	10.95
Snoopy	10.95
Star Wars Trilogy	14.95
Super Wonderboy	10.95
Tolkien Trilogy	12.95
Turbo Outrun	10.95

CORNIX SOFTWARE

CARD INDEX:
An easy to use card index type data retrieval program. Ideal for basic database requirements
CASS: 19.95 **DISC: 24.95**

JOB ESTIMATOR:
Aimed at the small contractor who needs to provide estimates quickly and neatly. Ideal for small builders, bricklayers, plasterers etc.
DISC ONLY: 39.95

PRODUCT COSTING:
Similar to Job Estimator but aimed at manufacturers or those producing a product for sale.
DISC ONLY: 39.95

Full specifications of all Cornix Products available free of charge upon request

EDUCATIONAL

Animal, Mineral, Vegetable	11.95
World Wise	11.95
Answerback Junior Quiz	**11.95**
Factfile's (*require Answerback Quiz*)	
Arithmetic (6-11 yrs)	7.95
Spelling (6-11 yrs)	7.95
Sports (6-11 yrs)	7.95
Fun School 1 *10 programs per disc*	
For 2-5 years	7.95
For 5-8 years	7.95
For 8-12 years	7.95
Fun School 2 *8 programs per disc*	
For 2-6 years	9.95
For 6-8 years	9.95
For 8-12 years	9.95
French Mistress (*12-adult*)	**15.95**
German Master	15.95
Spanish Tutor	15.95
Italian Tutor	15.95

DISC SERIOUS

Protext	17.95
Prospell	16.95
Promerge	16.95
Arnor Filer	18.95
Arnor Office Suite	26.95
Tasword 6128	**23.95**
Taspell	12.95
Tasprint	10.95
Tascopy	10.95
Tasdiary	10.95
Tassign 6128	23.95
Qualitas Plus V.2	**14.95**
Qualitas Font Library	11.95
Qualitas CPM + Utilities Disk	8.95
Masterfile III Database	**29.95**
Mastercalc 128	25.95
Matrix Spreadsheet Plus	29.95
Stockmarket	25.95
Stop Press Desktop Publishing	34.95
Extra Extra	19.95
Maxam (Assembler/Diss)	18.95
Poke Easy Plus	14.95
Mini Office II	**13.95**
Rodos Extra Disk	8.95
Advanced Art Studio	19.95

CPM BASED

At Last Plus	29.95
Supercalc 2	54.95
Arnor C Compiler	39.95
Maxam II	39.95
Fortran	39.95
Nevada Cobol	39.95
Hisoft Devpac 80	39.95
Hisoft Pascal 80	39.95
Hisoft C Compiler	39.95
Iankey Two Finger Typing	19.95
Iankey Crash Course	19.95

MJC SPECIAL
Protext CPM:
Full version including Spell checking and powerful mail-merge routines
RRP £59.95
OUR PRICE JUST £39.95

CASSETTE BASED

Mini Office 2	**9.95**
Maxam 464	15.95
Protext 464	15.95
Tasword 464	15.95
German Master 464	14.95
French Mistress 464	14.95
Answerback JNR Quiz	8.95
Italian Tutor	14.95
Spanish Tutor	14.95

ACCESSORIES

DKT 64K Memory Expansion	45.95
AMX Mouse + Interface	39.95
Multiface II Plus	42.95
Printer Lead 1M	8.95
Printer Lead 1.5M	9.95
Printer Lead 2.0M	10.95
3" Disc Head Cleaner	6.95
Amstrad RS232 Interface	55.95
Mono Screen Filter	12.95
Colour Screen Filter	14.95
Comp Pro 5000 Joystick	13.95
Quickshot Turbo Joystick	9.95
Cruiser Joystick	9.95
464 Monitor Extension Leads	6.95
6128 Monitor Extension Leads	7.95
1000 Fanfold Labels	6.95
Second Drive Lead	7.95
AMX Mouse + Art Software	59.95
AMX Mouse + Stop Press	69.95
464 Dust Cover (Mono or Colour)	7.95
6128 Dust Cover (Mono or Colour)	7.95
KDS 5.25" 800K, Disc Drive (state 464/6128)	149.95
KDS 8 bit Printer Port	18.95
Advanced Art Studio + Mouse	49.95

BOOKS/MANUALS

Advanced Amstrad Graphics	7.95
Mastering Machine Code	8.95
Programming the Z80	19.95

RIBBONS

Printer	Quantity 1	2	5
DMP 2000/2160	3.50	6.00	14.00
Panasonic 1080/1081	3.95	7.00	16.00
Citizen 120D	3.95	7.00	16.00
Star LC10 (Black)	3.95	7.00	16.00
Star LC10 Colour	5.95	11.00	---

MAXELL/AMSOFT
CF2 Discs
10 for £25.95

PLEASE CALL FOR AVAILABILITY

ROM BASED

Protext	27.95
Prospell	22.95
Promerge +	22.95
Maxam	27.95
Maxam 1.5	20.95
Utopia	20.95
BCPL	21.95
Rodos	28.95
Cage Rom (state which I/Face)	31.95
Rombo (if purchased with ROM)	28.95
KDS Rom Board (holds 6)	24.95

Quali Pack V.2

The Print Enhancement Package
Qualitas Plus V.2
KDS 8 Bit Printer Port
R.R.P £36.90
Package Price £31.95

Quali Pack Extra V.2

Qualitas Plus V.2
KDS 8- bit printer port
Qualitas font library
RRP £51.85 Our Price £41.50

PRINT COLOUR GRAPHICS!

At last it is possible to get colour screen dumps from a 6128!
***Colourdump 2** is available exclusively from M.J.C Supplies. Will take a standard screen file from the Advanced Art Studio or created with AMX Art, and Prints out in full colour on a Star LC10 colour printer. Also works on Epson compatibles (inc. DMP 2000/2160) with coloured ribbons.*

Colour Dump 2 £12.95
Advanced Art Studio £19.95
Star LC-10 colour printer £229.95

PRINTERS

All printers listed have a ten inch 80 column carriage and accept continuous or single sheet paper. They are Epson compatible and have a centronics parallel interface and are supplied with the cable required for your computer. Prices shown include VAT, delivery by Royal Mail Insured Parcel (which takes 7-10 days), and 12 month "return to us" guarantee.
For Courier despatch, add £5.00
For on-site "call out" warranty, add £5.00

CITIZEN 120D
A cheap, Epson FX compatible, giving a range of text sizes and effects in draft mode, and a limited range in Near Letter Quality.
£139.95

PANASONIC KXP - 1081
Well built and reliable, offers all the sizes and effects of the Citizen 120-D, but offers NLQ in all combinations.
£159.95

STAR LC-10 Mk 1
On a par with the Panasonic for build, speed and NLQ combinations, but offers 4 different NLQ styles and double height as well as double width text. Great value for money
£179.95

STAR LC-10 Mk II
Identical to the Mk1 but 25% faster.
£199.95

STAR LC-10 COLOUR
Based on the LC-10 Mk 1 but offers seven basic text colours. If you require colour graphics, please call first for advice.
£229.95

STAR LC 24-10
24 pin version of the LC-10, offering great text output in one of five letter quality styles, available in combination with all the usual sizes and effects. Two additional effects, Outline and Shadow are also available. Call first for advice if you require graphics output.
£259.95

CITIZEN SWIFT 24
Fast 24 pin offering all the usual sizes and effects from four letter quality fonts. Easy to use control panel with LCD Display. Please call for advice if you require graphics output.
£359.95

ALL ABOVE PRICES INCLUDE VAT, POSTAGE & PACKING IN THE U.K.
THE ABOVE SOFTWARE IS ONLY FOR THE AMSTRAD CPC RANGE

Overseas Orders Welcome - Please write for details

WE ARE NOW IN OUR FIFTH YEAR OF SPECIALISING IN AMSTRAD MAIL ORDER, OUR POLICY IS TO PROVIDE THE WIDEST RANGE AT DISCOUNT PRICES WITH A FAST TURN AROUND TIME - TRY OUR SERVICES WITH CONFIDENCE

CALLERS WELCOME: Mon-Fri 9 to 5 Sat 10 to 4

PLEASE SEND CHEQUES/POs TO:

VISA

M.J.C SUPPLIES, (AA)

Access

40a Queen Street, Hitchin, Herts. SG4 9TS.

Tel: (0462) 432897, (0462) 420847 or 421415 for enquiries & Credit Card orders

Proprietor M J Cooper

HELPLINE

Feeling helpful? Just send your name, address, phone number (say if you don't want it printed) and subjects on which you're offering help to: *Helpline*, Amstrad Action, Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP. Please write on a post-card or the back of a stuck down envelope and keep it short or you won't get in (or you'll get cut to 'loadsagames').

If you want help contact the appropriate Helpliner – not us. By post include a self-addressed, stamped envelope for the reply – or you won't get one. And phone only in decent hours!

Piracy is not welcome: don't try it, you'll get booted off. Keep it legal. And if you receive SAE's, for heaven's sake return them with some acknowledgement. Finally, if you want to come off *Helpline* just write in and say so.

Does anyone have the map (or photocopy) of *Head Over Heels* from *AA22*?
Virginia Ironside, 5 Loftus Road, London, W12 7EH.

Help wanted: educational tapes for games tapes. CPC 464-owning penpals wanted, females 20+.
John T Falconer, 80 Overton Road, Netherdurn, Larkhall, ML9 3BY.

Bards Tale Characters: includes warrior, paladin, bard and three arch–mages. Loads of experience. Send 20p and a blank tape.
Ben Sizer, 6 Greaveshouse Terrace, Huddersfield, West Yorks, HD8 0DQ.

Penpals wanted for games, swaps and help with machine code. 15+ male or female, write or phone.
Aaron Griggs, 21 Herne Down, Crowsborough, East Sussex, TN6 3BA (0892 663504).

Help on CPC BASIC and Pascal. Disk Files unerased!
Mark Wood, 52 Popples Drive, Halifax, HX2 9SQ.

Help wanted: *Nirvana*, *RSX-Lib*. Help given on: Multiface 2, BASIC programming, Bonzo Super Meddler and Blitz.
Aseir Magnusson, Efstasund 92, 104 Reyjavik, Iceland.

Help with comms, CP/M, disk drives, modems, Multiface 2, disk back-up, tape/disk transfers etc. Desperately want Viewdata BBS software, also penpals from anyhwere.
Nick Gibbs, PO box 502, Stirling, South Australia, 5152, Australia.

Penpals in England wanted to swap games and cheats. 16 y.o., experienced 464 owner with lots of software like CRL's *Image System*, *Cabal*, *Batman*, *Strider* etc. Owners of *M.Office II*, *Pandora*, *Protext* and *Head Over Heels* much appreciated. Must be tape user.
Kostas Farkonas, 42 Solomou Street, 143-42 New Filadefia, Athens, Greece.

Wanted: Datacorder and connecting lead for use with my 6128 + disk copy of 4th Birthday covertape.
Gabriel Barta, 7 Curtis Ave, S. Hobart, Tas. Australia, 7004.

Wanted: tapes of *Type-Ins* listings from the magazine *Computing With The Amstrad*. Also any unpublished Multiface pokes.
Carl Surrey 37 Fairfield Way, Barnet, Herts, EN5 2BQ.

Has anyone got *Emlyn Hughes International Soccer* on disk to sell or swap?
Roy Butlin, 1 Broome Close, Horsham, West Sussex, RH12 4XG.

Help wanted on *Spellbound*, *Knight Tyme*, *Finders Keepers*, *Hobbit*, *Snowball*, *Planet of Death* and *Dizzy 2+3*. Full solution available for the *Golden Apple*.
David Rogers, 9 North Holme Court, Thorpelands, Northampton, NN3 1YA.

Wanted desperately for CPC 464. MP1 modulator or MP2 modulator. Your sensible offer paid.
Simon Lowe, 29 Ravenswood Hill, Coleshill, North Warwickshire, B46 1BN.

Wanted. Pokes (any) for *Manic Miner* and *Axians*.
Margaret Clews, 33 Beresford Road, Blackburn, BB1 8BG.

Please, please, will anyone with back issues of *Computing With The Amstrad* and *CPC Computing* willing to sell please contact me!
Anthony Treacy, 60 Ruskin Road, Kingsthorpe, Northampton, NN2 7SY (0604 716057).

Wanted Yatching/Sailing simulation disk to suit Amstrad 6128.
R Hancock, Cedarwood House, Vicarage Lane, East Farleigh, Maidstone, Kent, ME15 0LX (0622 29989).

Help! Does anyone know how to use the Morrison ROMboard?
A Jones, 2 Townmead, Oakford, Nr Tiverton, Devon, EX16 9EW (039 85 438).

I've just started my own PD library. Send me your PD software. Also wanted *Type-Ins*, Cheats, Pokes, Calls or ANYTHING for the CPC. All disk and tape entries are returned the same day when poss.
D Geake, 4 Westmeads Road, Whistable, Kent, CT5 1LR (0227 265641).

Help on *Cybernoid I* and *II*. How do you get past station 12 – level 2 on *Vindicators*?
Adam Nendick, 17 Lightfoots Close, Scarborough, YO12 5NR.

Hints, tips, cheats wanted for *Manic Miner* and *Jet Set Willy*.
A Sharrock, 8 Fisher Drive, Orrell, Wigan, Lancs, WN5 8QX.

Has anyone got an *AA39* they're willing to sell? Please, I'm desperate, your sensible price paid.
Henry Williams, 36 Column End Rise, Leckhampton, Cheltenham, Glos. GL53 0PB.

Programs needed for a mag's 'homebrew' section. No matter how bad you think it is send it in (tape only). Enclose address if you want it returned.
Paul Johnstone, 1 East Castle Road, Edi burgh, EH10 5AP.

Anyone got any good American Football Good prices paid.
Rhys Sinnett, 57 Ingleton Road, Edgely, port, SK3 9NN.

Help wanted on *Last Ninja II* and *Heavy Magick*. Please send tips, pokes and map
Alan Renicor, 6 St Johns Walk, Harrogat North Yorkshire, HG1 3AJ.

Help! Desperately need *AA* Issue 30, will buy or borrow.
A J Kirk, 50 Ripon Road, Stevenage, Her shire, SG1 4NA (0438 364722).

I have loadsa cheats which I will swap. C anyone sell me the *AA37* covertape, I wil
Johnathan Ladhams, 20 Knights Road, C shall, Essex, CO6 1UP.

6128 on disk – penpals wanted – I've MC tines and many of my own pokes – also u demos. All letters answered.
Patrick Niesen, F9B Rue Ligot, 6200 Gos Belgium.

Wanted urgently: Rainbird's *Advanced M System*. Any reasonable price paid.
Jeremy Fox-Geen, 1 Elsmere Close, read Berks, RG3 6LG (0734 429955).

I need desperate help on *Gryzor*, *Renegad Rambo*, *Fast Food* and *Untouchables*. Pok cheat on tape? I can give help on other ga send a list and I'll try to lend a hand.
Gary Smith, Rigmoor Cottage, Blackford Carlisle, Cumbria, CA6 4EQ.

I can offer help with every aspect of BASI M/C, disk drives, the lower RAM, writing games, RSX'=s, interrupts and queries on firmware. I can also write basic and M/C p grams for you and have a working knowle of Pascal. All queries answered if SAE enclosed.
SSW, 6 Ramsgate Road, Reddish, Stockpo Cheshire, SK5 6TN.

Penpal wanted 14+ to swap pokes and ga Must own a 464. Loadsa games and pokes offer.
David Terry, 20 Cumberland Avenue, She way estate, Maidstone, Kent, ME15 7JN.

Has anybody got *Jet Boot Jack* or *Donkey* for sale? Sensible offers paid.
Nigel Soal, 12 St Margarets Avenue, Sidc Kent, DA15 7NP (01 302 2778).

Help wanted on *Karnov* and *Ghouls and Ghosts*. Also penpal wanted, male 10 - 12 464 owner.
Ricky Jones, 14 Lochies Road, Clackman FK10 4JA.

Help! Anyone got *Elite* or *Football Manag* disk for 6128 to sell/swap. I also have 100's pokes for anyone sending SAE.
Julie M, 149 Malvern Crescent, Darlingto Durham, DL3 9UN.

Has anyone got a poke for *Platoon* or *Targ Renegade*. Tape.
Declan Heerey, 9 Ednam Hse, Frencham Street, Peckham, London, SE15.

Cracking the code

Stuck on scrolling? Ace pixel-shuffler MICHAEL GLEDHILL might just be able to help you out...

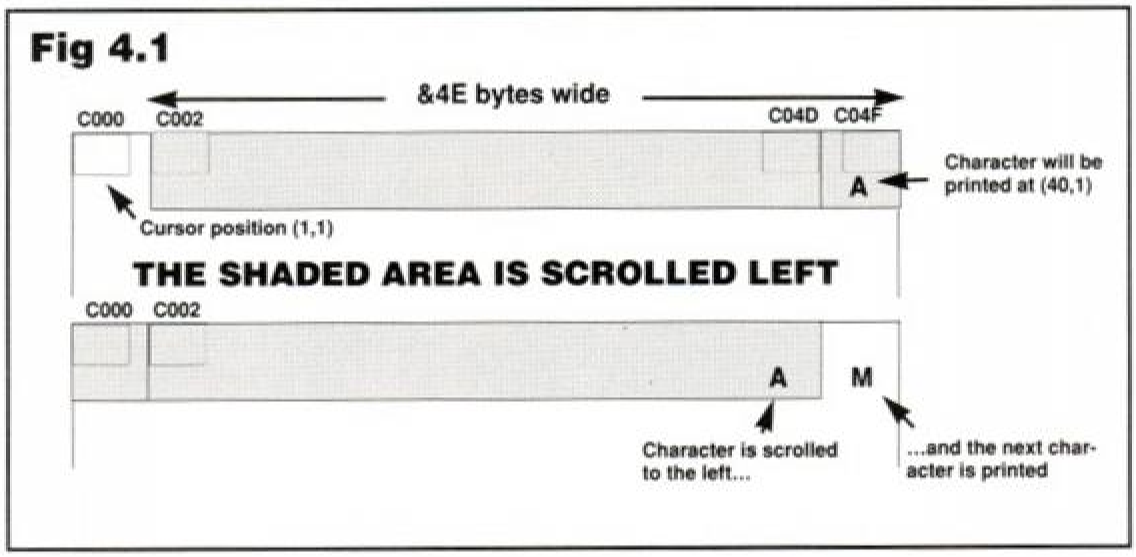
Scrolling is quite a tricky subject. It's tricky because every routine is different, depending on what the programmer wants to scroll in which direction, on what size screen, with what displacement, within what time limit... and so on.

We'll start with a simple example. We've all seen scrolling messages within a program, and these are based around a simple scroll routine together with a print routine.

I could continue by writing an example listing, but there's a problem. I don't know how big an area to scroll, or where to scroll it. Before writing a routine like this, make a plan of the type of scrolling routine you need.

I've decided that I'm going to write a routine for MODE 1, print normal ASCII characters at (40,1) using the firmware's &BB5D character printer, and I want the top line scrolled to the left by two bytes before I put the next character at (40,1).

A bit of working out tells me what bytes I'll need to scroll.



(Figure 4.1)

From there, it's pretty simple.

```
prog :LD   A,1
      CALL &BC0E
start :LD  DE,string
loop :LD   HL,&2801       ; Set the cursor position
      CALL &BB75          ;
      LD   A,(DE)         ; Get character to print
      OR   A              ; If we've reached the end of
      JR   Z,start        ;  the string, start again !
      INC  DE
      CALL &BB5A
      CALL scrl
      CALL &BD19
      LD   A,&2F          ; If SPACE (key &2F) isn't
      CALL &BB1E          ;  pressed do it all again !
      JR   Z,loop         ;
      RET
string:DB "Amstrad Action - the coolest mag, for the coolest
          dudes ! ",0
scrl  :PUSH DE
      LD   HL,&C002      ; Set up variables for
      LD   DE,&C000      ;  the first LDIR instruction
      LD   B,&8
loop2 :PUSH BC
      PUSH HL
      LD   BC,&4E        ; Number of bytes to scroll
      LDIR
      POP  HL
      CALL &BC26
      LD   D,H           ; DE is always 2 bytes more
      LD   E,L           ; than HL, so why bother
      DEC  DE            ; PUSHing and POPing both
      DEC  DE            ; registers ?
      POP  BC
      DJNZ loop2
      POP  DE
      RET
```

Try running that program. You'll notice a slight problem. Despite the use of the &BD19 call, the scrolling is still flickering! I'll leave you to add a few more &BD19 calls to slow it down, but that problem is one you'll meet again and again in fast scrolling.

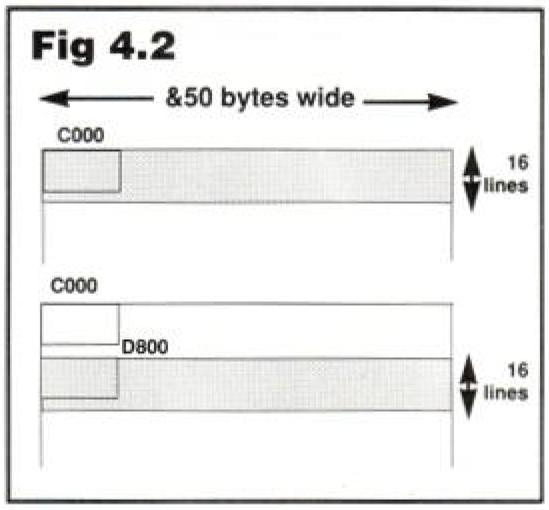
The problem with that routine is that it does "jumpy" scrolling – if I did a routine to scroll to the left by one pixel, it'd be very slow. Anyone who's seen *Ninja Scooter* will know what happens if you try to scroll horizontally using this LDIR method. It causes a lot of flicker ! Having said that, *Ninja Scooter* – and most other scrolling games work around this problem by replacing bits like :

```
LD   BC,80
LDIR
```

with 80 LDIs. It's faster, but takes up much more room.

And then there's vertical scrolling. This can be done a lot smoother, as the scrolling area need only move up one line at a time, rather than two pixels up or down as the horizontal scrolling was forced to.

Vertical scrolling can again be simplified by drawing a diagram of what I want to shift and where.



(Figure 4.2)

After establishing what I want, I can then write the program.

```
      LD   HL,&C000
      LD   DE,&D800
      LD   C,16
loop: PUSH HL
      PUSH DE
      PUSH BC
      LD   BC,&50
      LDIR            ; Copy area up three lines
      POP  BC
      POP  HL         ; DE steps down a line
      CALL &BC26
      EX   DE,HL
      POP  HL
      CALL &BC26      ; HL steps down a line
      DJNZ loop
      RET
```

And finally, I can't give you a complete guide to scrolling without mentioning the hardware scrolling. You've all seen the scrolling when you move the cursor off the bottom or top of the screen. But it has it's drawbacks. For a start, it'll ONLY scroll eight lines up or down or one fortieth of the screen left or right, and it can only scroll the ENTIRE screen.

If you're writing a game and need full screen scrolling, then using the hardware will mean that anything which doesn't want to move, such as a scoreboard, has to be rewritten after every scroll. With the right programming, this can prove to be quicker than using software scrolling, but my personal opinion of hardware scrolling is to keep away.

Soon, amongst other things, we'll take a quick look at RSXs and the firmware. In the mean time I am putting out a fine reward of twenty five bob, or 500 shillings – if it's good – to whoever writes in with the best tip, routine, or whatever. So come on all you programmers who've been using firmwareless programs – tell us what YOU think your fellow programmers should and shouldn't do...

TAKE THE EXPRESS CHALLENGE

Money back if not delighted!

Every week ***New Computer Express*** is packed with v information about the CPC. New games. New produ New prices. New bargains. New sensations that you sim cannot afford to miss.



Every week ***New Computer Express*** provides expert news coverage. A hand-picked team of journalists brings the fastest, most authoritative news week in, week out. From all around the world, anything exciting about the CPC will be in Express.



Every week *New Computer Express* is simply irresistible. If you're at all serious about getting the most out of your machine, then you just have to have Express.

DON'T BELIEVE US?

Then take THE EXPRESS CHALLENGE:

Simply buy ***New Computer Express*** and we're convinced you'll be hooked. If you're not, then send us the ma heads of four consecutive weeks from March to the end of April 1990, together with your reasons for not liking ***New Computer Express***. We'll then refund your £2.32 purchase in full.

Name .... Age .... Machine owned ....

Address .... I would like my money back on New Computer Express because ....

....

....

Postcode ....

I enclose four consecutive mastheads from New Computer Express March /April 1990 issues
Send to: **The Express You Can't Say Fairer Than That Promotion, Future Publishing, The Old Barn, Somerton, Somerset TA11 7PY.**
Newsagents: New Computer Express is distributed by Comag

Offer closes May 4th 199

ACTION TEST

Fiendish Freddy *finished at last – and he's a nasty piece of work too*

"The stuff of legends!"

System 3 sets up a battle royal with the gods themselves in* Myth. *Save history or die!







● The award-winning *Kick Off* is here. Is it 1st division stuff – or 4th division? Turn to page 45 for the classified results.



● *Fiendish Freddy* takes centre stage. Trick or treat? The show begins on page 40.



● *Rainbow Islands* makes the Care Bears look like the KGB. Is it sweet or sour, though? *AA* gives you a taster on page 54.



● Violence is golden in *Wild Streets,* the new beat-em-up from France. A true champ or just another Tyson? The rumble's on page 52.

Also reviewed

FIENDISH FREDDY'S BIG TOP O'FUN

Mindscape ● £9.99 cass, £14.99disk joystick/keys

Hurry, hurry, hurry, because the greatest show on earth – the Big Top O' Fun – is about to begin. Unless, that is, Fiendish Freddy has his way...

The happy-go-lucky circus folk have hit lean times and owe the big bad bank bundles of bucks. What's worse, the bank wants to tarmac over the site and turn it into offices, putting you on the dole and depriving thousands of children of the magic that is circus.

There's one last chance, a chance the circus has to take. There's time for one more big show, the chance to raise more than $10, 000 to pay your way and thus save the day. The bank, too, is aware of this and has hired the infamous East Coast hitman, the clown prince of crime, Fiendish Freddy, to ensure the show must *not* go on.

You must complete six acts, each more daring and more dangerous than ever before, if you're to put bums on seats and pay the bills. Yet Freddy has a foul and foolproof plan to frustrate each performance, so beware as you enter the dangerous world of the high-divers, trapeze artistes, jugglers, knife-throwers, high-wire walkers and human cannonballs.

A multi-event game, *Freddy* follows in the footsteps of *Games* and *Daley Thompson Decathlons* of days past, using the circus as its base instead of sport. Each event builds cash up to that magic ten grand that can save the circus. A maximum of six players can try to see off the dubious jester, although they can't combine royalties. So, ladies and gentlemen, boys and girls, players and rubber-neckers, cast your eyes towards the ring for the first act.

AA RAVE! ☆ AA RAVE! ☆ RAVE! ☆ AA RAVE! ☆ AA RAVE!

Phenomenal Feats of Daring Diving

Take Horace the fearless flying diver higher and higher as he sets pulses racing and the turnstiles ticking. He has to dive from four different boards and perform different tricks all while aiming for insubstantial targets. On Level One he gets a relatively huge barrel, Two a bucket, on Three he aims for damp sponge and for Four he has to hit a tea cup from about five miles up.

Freddy seeks to ruin this act by flying in using his jet pack and forcing Horace off target. A true test of waggling, indeed, Horace always makes an impression, more often than not in the circus floor and not on the audience.

Genuine Juggling Genius

This is Jeffy the Juggler's greatest moment. He has four different goes at keeping the objects flying from hand to hand. The unicycling clown is thrown knives, torches and balls by his seal helper. Line up the hands under the object for a catch, waggle to throw them. Drop five and it's game over, but the time limits are generous, so take it easy.

Freddy is at his most dangerous here as he tosses bombs in for Jeffy to catch. The poor juggler had better get rid of them pretty quick if he wants to survive, as the fuses burn real fast. On the Third and Fourth levels Freddy even throws babies in for the hapless performer to catch and then throw back into their prams. Success here requires you to watch fifteen things at once, be able to move them at will and still be able to smile. Oh, the tears of a clown!



Deadly and Dangerous Daggers of Death

As tradition demands, the knife-thrower's lovely assistant is strapped to a wheel, surrounded by balloons, and set spinning. You have to throw the knives to pop the balloons and not the girl. There's a generous time limit, but a distinct shortage on the knife front, so aim using the knife cursor carefully.

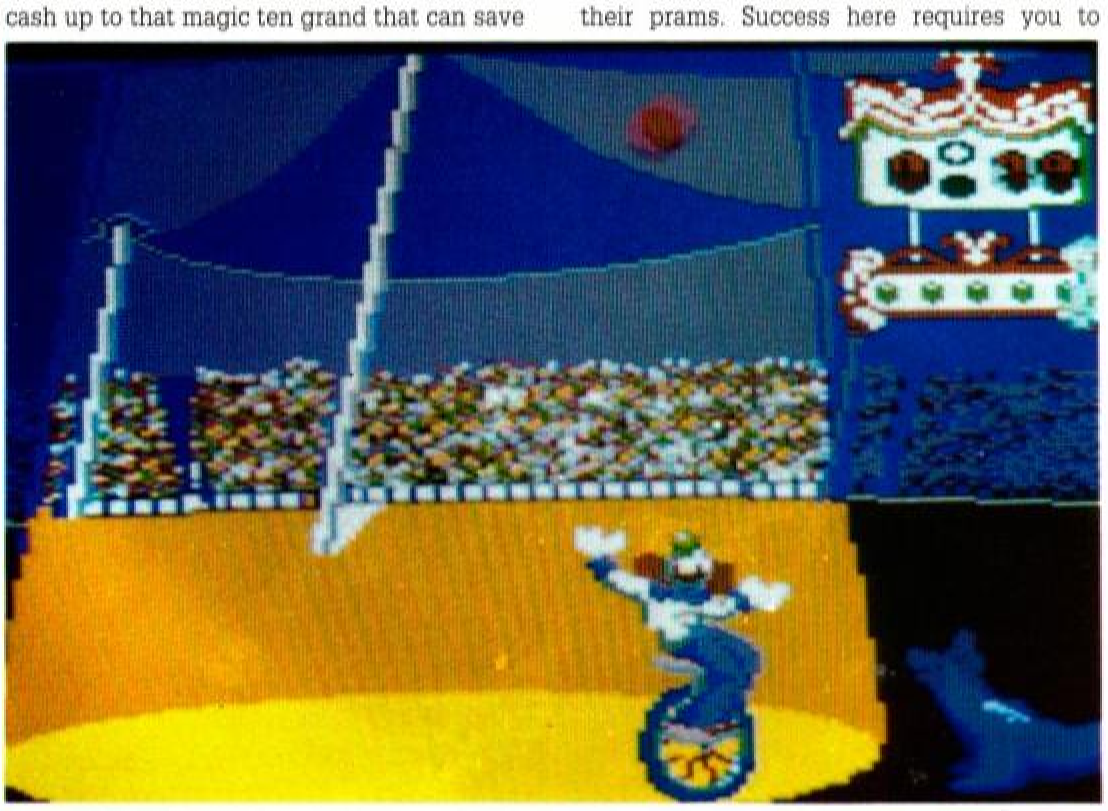
Freddy is quite laid back on this one, just putting a spanner in the works by throwing in the occasional left-over bomb to shake you up and ruin the whole show with smoke. He hardly has to do this, though, because the event's a real toughie even without the interruptions!



● Roll up, its a game for upto five fiendish players

Breath Taking Bravado From Hazardous Heights

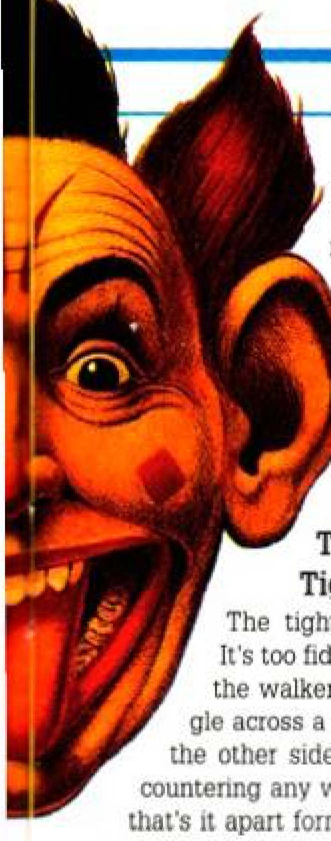
The high trapeze has fascinated audiences since it came to the circus. The Big Top O' Fun's star is Finola, who swings high above the crowds defying both gravity and death. Time her leaps to perfection, making sure she lets go of one bar at just the right moment to somersault and grab the next. She even has to negotiate flaming hoops and paper targets on the way.



● Jeffy the dubious juggler gets to grips with the proceedings



● Horace prepares fro highboard hijinks



Freddy is once again out and about on his jet pack, waiting for the right moment to strike. If she waits for that perfect jump it's not inconceivable that he'll cut her down, so take those chances – she does have two lives, after all.

Tense Travel Techniques on Tightrope

The tightrope is a disappointment. It's too fiddly and not spectacular. All the walker has to try and do is struggle across a length of rope, making it to the other side. Balancing is achieved by countering any wobble in any direction, and that's it apart form the (overwhelming) likelihood of falling to your doom, so on the whole it's a bit dull.

Freddy does wait in the wings to give you less than a helping hand if things are going too well, but that's such a rare event both you and the audience will be glad to see a different face.



● You can tell when the judges are impressed

Combustible Cannons of Colossal Courage

As a finale, the big top folk wheel in their big gun for the human cannonball act. You have to judge how far the powder in the cannon will fire Fernado (for it is he) and the correct angle for the shot to hit the target. Once fired, there's no turning back, so make sure of any calculations about windage and elevation before the big bang.

Freddy will bung a bung in the barrel if you're slow in the decision stakes. So the whole event takes a frantic turn as you try to learn the intricacies of ballistics at Fernado's expense.

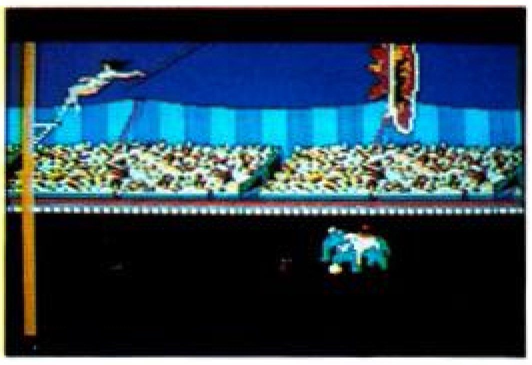
The real treat in *Freddy* is not the games themselves but the humour that pervades the whole show. The manual's written with Big Top hype and the graphics are more 'toons than sprites. All the events have a special humour; the high diver's landings, the wobbly Jeffy juggling on his unicycle, to name but two examples. Even the incidental screens between events are funny, with the Ringmaster's trousers falling down and the judging panel doing *Three Stooge* routines before they give a verdict.

SECOND OPINION

A Graphical Extravaganza. A novel plot and wicked humour lift what could otherwise have been yet another multi-event sport-em-up into something special. **AW**

GREEN SCREEN

The circus is still magic in green.



● The daring trapeze artiste makes in one piece

Freddy acts as an unpredictable joker that is played without warning, giving a random and more dangerous edge to the proceedings. He actually makes competing even as a single player interesting, because you never know where or when he's going to strike.

Never in the history of gaming has there been so much real humour crammed into a game, and it lifts what would be an ordinary multi-event game to rave levels. If want a Barrel O'Laughs you won't go far wrong in when you enter the Big Top O'Fun. **TW**

FIRST DAY TARGET SCORE
$5,000

The Verdict

GRAPHICS 95%

- ☐ Hilarious cartoon capers.
- ☐ Brilliant animation sequences.

SONICS 52%

- ■ Run-of-the-mill effects.
- ☐ Almost continuous music.

GRAB FACTOR 91%

- ☐ A winner right from the off.
- ☐ Easy events to understand.

STAYING POWER ... 83%

- ■ Difficult to master.
- ■ Only six events.

AA RATING 88%

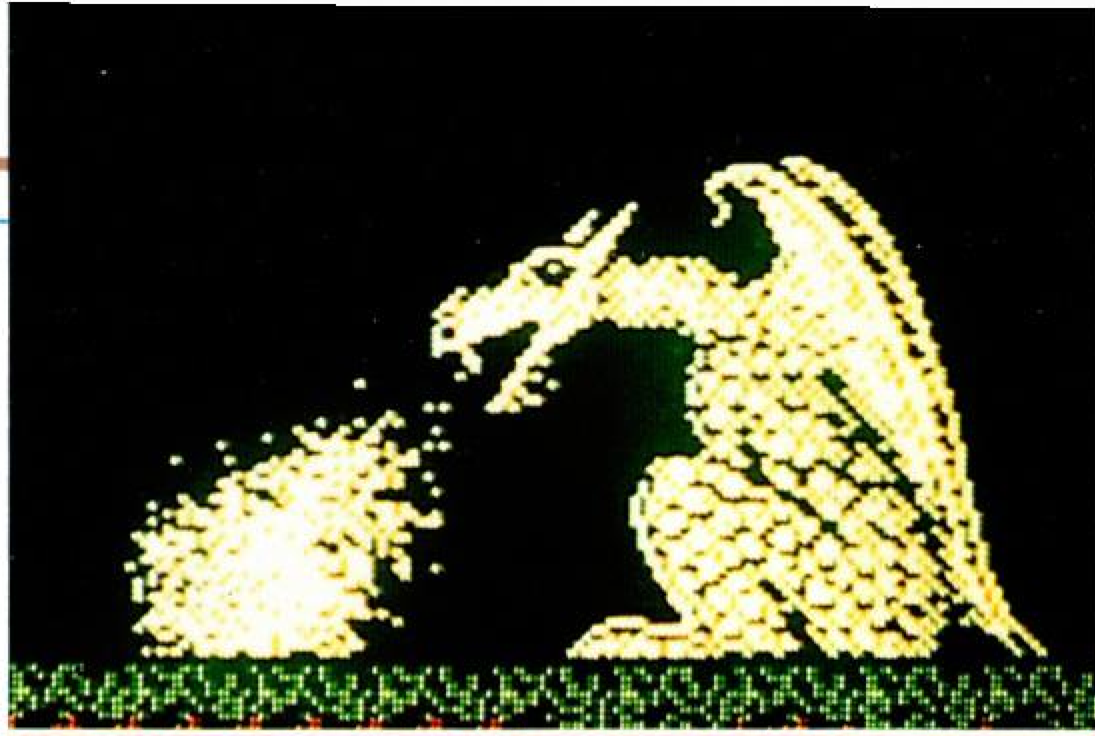
- ☐ A laugh a minute, circus extravangaza.



● Throw those knives and burst those balloons



● Fernado the human cannonball makes aperfect landing, for a change!



● In legend this Norse dragon was immortal, but you now have to kill it. Can it be done?

MYTH – HISTORY IN THE MAKING

System 3 ● £9.99 cass, £14.99 disk joystick/keys

So you've read all the books, right? You know all about the devils and demons of ages past, but they weren't real! Were they...?

Too right they were, and now all your expertise is going to be needed if the world – even history itself – is going to be saved for all time.

Dameron, principal nastie in a sky chock-full of evil deities, has taken over time itself. He's unable to influence the future – that much was laid down at the dawn of man, when the gods diced for control of the elements.

AA MASTER GAME

He can, however, in the best Marty McFly manner, change the future by simply altering the past.

Gods cannot change their alignment either – good lords are only able to do good deeds. But Dameron has found a theological loophole here too, and has convinced the gods that evil is in fact good and now threatens not only your life, but every life that was ever destined to be for the rest of time.

The few remaining forces of good have selected you to be their champion and right the wrongs of Dameron. Only a mortal can do this, and only you have the necessary knowledge of mythology (*you got an 'ology – ed!*) to succeed. It's going to be tough battle fighting the gods themselves, but this is the stuff dreams are made of. This is a *Myth*, truly history itself in the making.



● Don't look now – Medusa's attacking!



● Get the head, and the level's in the bag.

You're transported to the first time zone – and it's Hell – or at least the road to it! You must find and collect five orbs that will give you the power to overcome Dameron's evil and further your quest. Act fast – you're on a mission from god!

The world is one of platforms, floating rocks and caves that you can leap about looking for clues. An arcade adventure, the primary task is finding some weapons to protect yourself from the obviously vicious creatures of the pit.

Flexing your muscles, you can leap, walk and run. Boxes, chests and other containers can be kicked open, revealing items that can be collected and stored for use at a later date. So look hard and use carefully. Fireballs and energy are the most urgent requirement, so that you've got something to kill with and to live on! You can attack zombies and creatures of the night with your bare hands, but it isn't really a viable proposition.



● A harpy attacks.

SECOND OPINION

An epic adventure that is sure to keep you playing for many moons to come. Clearly ported straight over from the Spectrum but – for once – none the worse for it. **AW**

GREEN SCREEN

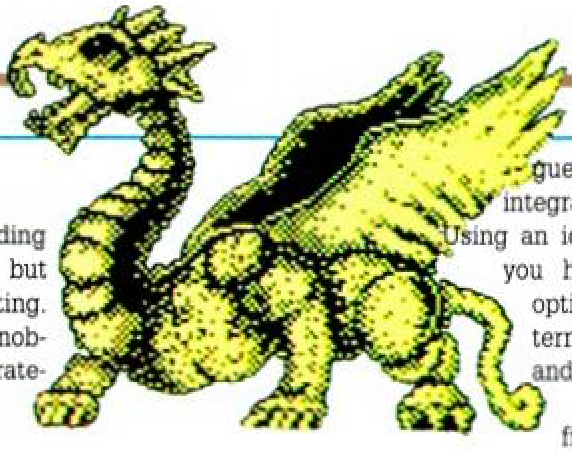
Gets a teensy bit dark in places.

Hell is a hot and fiery vision. Skeletal dead stalk the corridors hunting you, corpses of the damned hang in torment from nooses eager to drain your energy so that you join their ranks. Wiping out skeletons with fireballs has the curious effect of leaving skulls to collect.

You may not instantly know why, but the good gods are giving you all the help they



● You have to beat the demon and cross the fiery pit to get the teleport gem you seek.



can, so don't ask questions!

Fiery gargoyles sit guarding the most obvious orbs, but these take some getting. Others are in apparently unobtainable positions. Good strategy and experimentation will eventually yield results. Remember, every item has a use and every monster a weakness!

Hellfire and brimstone bubble and boil, sapping your energy if you stand in the wrong place for too long. Swinging corpses rock gently when touched, while huge devils guard the artifacts you seek. Beware demon-fire – it kills! Every step you take may be your last if you don't know exactly where you're going and on what you'll land.

Success transports you from the land of Dante to the world of ancient Greece. Now you must face the titans, whose fame Homer sang: Medusa, Hydra and friends. More benign gods than those of Hades live here, and if you act bravely and courteously, there's a chance to recoup some of your lives. There is also greater danger.

Again, you seek five orbs, orbs that when used with a master icon will take you to the next world. The risks involve instant death by pertrification, more fire-baths and a beautiful lady who also happens to be as fickle as the English climate!

Here you're armed with a sword and shield, so you shouldn't feel naked even when facing "old snake head". Swing your blade into everything – even the scenery – to find those hidden treasures. They won't make you rich, but may well save your soul.

Complete this level and you face the might of the Norse gods Odin and Thor, in a land littered with trolls and wraiths. You start by battling against vikings on the prow of a dragon ship that's sailing into the teeth of a gale. The Norse gods must be defeated and made to realise the error of their ways.

After a showdown with the father of the gods, Odin, you will find that the final and most perilous adventure is yet to follow, in the trap-filled world of ancient Egypt.

In the land of the Pharaohs, all is definitely not what it seems. Every paving stone may spring a trap that will crush, poison or behead you (possibly all three). King Tut must be raised from the grave and then killed – a bit pointless, but effective.

The puzzles – principally finding out what each item you find actually does – get ever more difficult. The dangers are increasingly terminal. Make the most of any lives gained on the Greek level and the credit feature if you want to stand any chance of getting into the final face-to-face beef with Dameron, the god who caused all the trouble in the first place.

As an arcade adventure, *Myth* is unsurpassed. It has depth and cunning gameplay, subtly blending joystick speed with grey matter power to a near perfect degree. Luck and guesswork become integral to your success. Using an icon system means you have a variety of options at all times, in terms of what to do and how to do it. A little clumsy at first, the pause taken while you select objects/actions with space bar and joystick often gives you the vital time needed to think out a problem and to second-guess the programmers.

Graphically, the choice couldn't have been a better one. Small, bold sprites are used in single colours, thus avoiding clashes and making all things clear at all times. Wit and humour is readily apparent in the animation, with the transforming woman's hair waving, wraiths diving into the ground and skeletons that look like extras from a fantasy B-movie.

The sound effects are varied and interesting. The overall impression of the game is helped by the huge monsters. Some are pretty immobile, and all are as impressive as they are deadly.

Myth feels full. It's detailed and challenging, a game constructed by gamesplayers *for* gamesplayers. Care is taken at every turn to impress and confuse would-be heroes. The gods of ages past are waking and their rumblings are the stuff legends are made of. Share this legend and make history.

If you fail, the world will suffer for enternity. Win, and you will join the deities of times past in *Myth*.

TW

FIRST DAY TARGET SCORE

Finish the Road to Hell

The Verdict

GRAPHICS 93%
- Beautiful, detailed and thorough.
- Exceptional animation.

SONICS 70%
- No music.
- Vast array of sound effects.

GRAB FACTOR 88%
- So much to do – where do you start?
- Very tough.

STAYING POWER ... 95%
- Four very tricky arcade adventures in one.
- Good reactions are essential.

AA RATING 94%

- An arcade adventure that will go down in legend.



Level Three starts on a viking ship.



Traps are everywhere in the pyramid of King Tut.



Take a close look at the statue of Achilles.



A lady Norse god needs rescuing from the fire.



Medusa's little pet, the Hydra!

KICK OFF

Anco ● £9.95 cass, £14.95 disk joystick/keys



"Not another soccer sim!" we cried when *Kick Off* landed on the *AA* doormat. We've reviewed well over thirty in the past four years. Could yet another possibly offer anything new?

Kick Off promises the usual stuff that you'd expect from a football game. One or two players, a practice mode, and a league table that allows up to eight people to play. It has penalties, corners throw-ins and fouls. You can set team formation tactics, dribble, pass, tackle and shoot.

On first impressions, *Kick Off* really does look dire. The graphics are Spectrumesque to the very worst degree. The players have very little detail and are drawn in a single colour for each team – a rather sickly choice of cyan and purple – though this gives excellent contrast on a green screen. The ball is a solid white blob and you get the feeling that the graphics haven't had much work put into them. The green pitch has white markings, apart from which there is no other background detail.

Sound too is limited. All you hear is the referee's whistle at various stages throughout the match, and a bouncing sound whenever a player kicks the ball or it hits the ground. Apart from these two spot effects, the sonics are non-existent. There is no music of any description, and although sound is by no means the most important aspect of a game, the lack of it seriously detracts.

Once you get over the bad presentation, however, the fast scrolling and slick action begin to shine through. The playing area is fairly small – but not so small that you can't see what's going on – and it moves along at a fair old whack. The players are all computer-controlled apart from the one that touched the ball last, and this chappie can be easily controlled with the joystick or keyboard. (Control changes each time the computer sends a player into the ball.)

This makes for a good system, as you're not trying to move one player and suddenly finding that you have switched to another. Sometimes, however, when the ball lands right next to one of your team it can be frustrating not being able to take direct control.

It's great fun playing against the computer, which plays a well-balanced game. It isn't so easy that you thrash the computer every time, but it's not so difficult that it's impossible, either. The skill levels of the teams can be set from Sunday League to International standard, so it's possible to adjust the opposition to match your abilities.

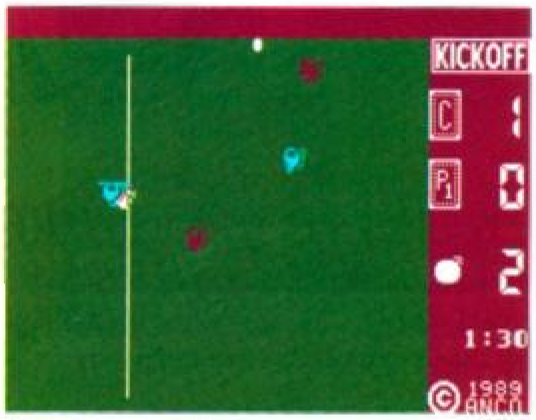
The real fun comes when the opposition is human. The sheer exhilaration of playing real enemies... er, colleagues... had the entire *AA* office enthralled for hours. It really is the one of the most playable two-player games we've come across, and is certainly *the* two-player footie sim.

The League is another excellent option. Up to eight players can compete at once, and the on-going competition can be saved to tape or disk.

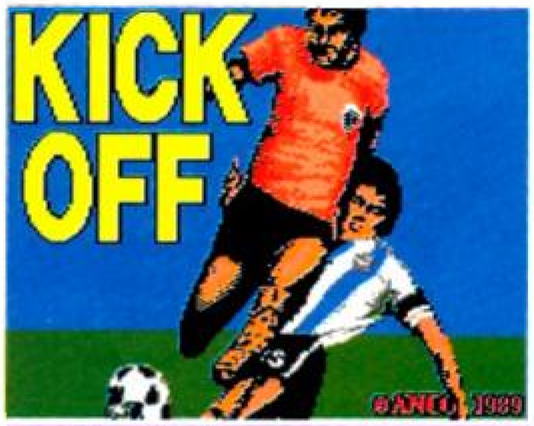
We had mixed feelings about *Kick Off*. With the fast gameplay and pin-point playability you're over the moon, whilst the appalling graphics and naff sound leave you as sick as a parrot (*that's enough metaphors – ed*). At the end of the day, though, the good points outweigh the bad, and *Kick Off* is well up in the first division.

AW





● The throw-in. Over 'ere son, on me 'ead!



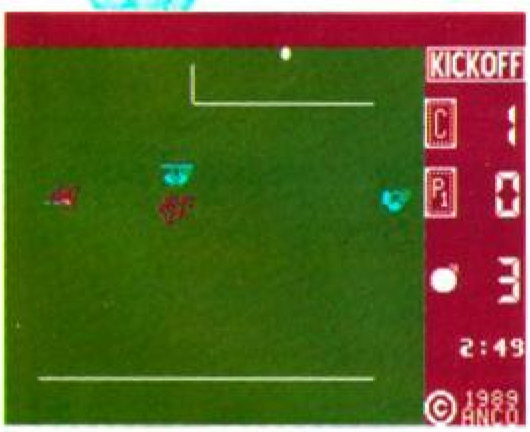
● The *Kick Off* loading screen.

SECOND OPINION

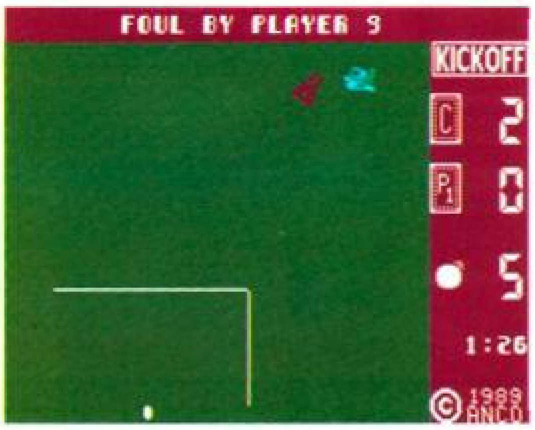
The only footie game I'll play – 'nuff said? **RL**

GREEN SCREEN

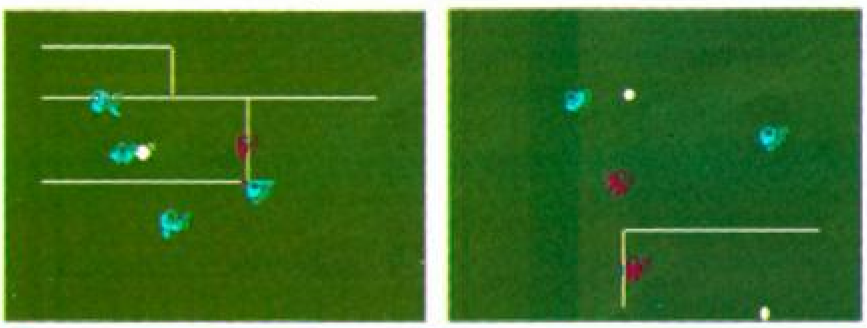
More suited to green, if anything.



● The player you control is marked with a bar.



● Never touched 'im, Ref!


● It's end-to-end stuff in the *Waring Wanders* vs *Webb Rovers* match.

FIRST DAY TARGET SCORE

Beat the computer on International level

The Verdict

GRAPHICS **13%**
■ Dreadful flickery sprites.

SONICS **17%**
■ Conspicuous by their absence.

GRAB FACTOR **67%**
□ You soon get into the action after the initial disappointment.

STAYING POWER **86%**
□ Once you've played one game you're hooked.

AA RATING 78%

□ Superb soccer sim marred by bad presentation.

SOFTWARE CITY

CALL US ON:
0785 41899
0922 24821
0902 25304
ACCESS
VISA

We welcome customers at:

SOFTWARE CITY	SOFTWARE CITY	SOFTWARE CITY
1 GOODALL STREET,	56 FOREGATE STREET,	3 LITCHFIELD PASSAGE,
WALSALL	STAFFORD	WOLVERHAMPTON
TEL: 0922 24821	TEL: 0785 41899	TEL: 0902 25304

2 Player Super League	£2.99
180	£2.99
3D Grand Prix	£2.99
720	£2.99
1942	£2.99
Academy	£2.99
Ace 1 or 2	£2.99
Action Force	£2.99
Airwolf 1 or 2	£1.99
Alien Syndrome	£2.99
Arcade Flight Sim	£2.99
Arcade Fruit Machine	£2.99
Army Moves	£2.99
Barbarian	£2.99
Bard's Tale	£2.99
Barry Mcguigan's Boxing	£2.99
Baseball	£2.99
Batman	£2.99
Battleships	£1.99
Beyond the Ice Palace	£2.99
BMX Sim 1 or 2	£2.99
Bombjack 1 or 2	£1.99
Boxing Manager	£2.99
Buggy Boy	£2.99
Chuckie Egg 1 or 2	£3.99
Combat Lynx	£1.99
Commando	£2.99
Crazy Cars	£2.99
Cricket Captain	£2.99
Cricket Crazy	£1.99
Cricket Int	£1.99
Critical Mass	£1.99
Crystal Castles	£2.99
Cybernoid	£2.99
Daley Thompsons Decathalon	£2.99
Dan Dare 1 or 2	£2.99
Deep Strike	£1.99
Dizzy	£2.99
Dizzy in Fantasy World	£2.99
Dizzy Dice	£1.99
Eagles Nest	£1.99
Enduro Racer	£2.99
European 2 Football	£2.99
Exploding Wall	£2.99
F.A. Cup	£1.99
Fighting Warrior	£2.99
Fist 2	£2.99
Football Manager	£2.99
Footballer of the Year	£2.99
Formula One Grand Prix	£1.99
Frank Bruno	£1.99
Frankenstein Jnr	£2.99
Frightmare	£2.99
Fruit Machine Sim 1 or 2	£2.99
Game Over	£2.99
Gary Linekar's Superstar Soccer	£2.99
Gauntlet 1 or 2	£2.99
Graham Gooch	£1.99
Ghosts and Goblins	£2.99
Ghostbusters	£1.99
Grand Prix Sim 1 or 2	£2.99
Great Escape	£2.99
Green Beret	£2.99
Greg Loses Clock	£2.99
Grid Iron 2	£2.99
Hardball	£2.99
Heavy on the Magick	£1.99
Hollywood Poker	£1.99
Hypersports	£2.99
Ikari Warrior	£2.99
Indoor Soccer	£1.99
International Manager	£2.99
Jack The Nipper	£2.99
Jet Set Willy	£1.99
Jocky Wilson's Darts	£2.99
Joe Blade 1 or 2	£1.99
Knightmare	£1.99
Konami Ping Pong	£2.99
Konami Tennis	£2.99
Kosmos	£1.99
Krakout	£2.99
Las Vegas Casino	£2.99
Leaderboard	£2.99
League Challenge	£1.99
Little Puff	£2.99
Manic Miner	£2.99
Masters of the Universe (film)	£2.99
Mig 29	£2.99
Monte Carlo Casino	£2.99
Monty On the Run	£2.99
Moto Cross Sim	£2.99
Nigel Mansell Grand Prix	£2.99
North Star	£2.99
Ollie and Lisa 3	£2.99
On the Bench	£2.99
Operation Gunship	£2.99
Paperboy	£2.99
Pinball Sim	£2.99
Powerplay	£1.99
Postman Pat	£1.99
Postman Pat 2	£2.99
Predator	£2.99
Premier 2 Football	£1.99
Pro Golf	£1.99
Pro Snooker	£2.99
Pub Trivia	£2.99
Rally Cross Sim	£2.99
Rally Sim	£2.99
Rambo	£2.99
Rampage	£2.99
Renegade	£2.99
Rex	£2.99
Rolling Thunder	£2.99
Rugby Boss	£1.99
Rugby Simulator	£2.99
Rygar	£2.99
Saboteur 1 or 2	£1.99
Scooby Doo	£1.99
Short Circuit	£1.99
Sidearms	£2.99
Sigma 7	£1.99
Soccer Boss	£1.99
Soldier of Light	£2.99
Solomon's Key	£2.99
Space Harrier	£2.99
Spindizzy	£2.99
Spooked	£2.99
Spy Hunter	£2.99
Spy V Spy	£2.99
Street Fighter	£2.99
Summer Games	£2.99
Super Cycle	£2.99
Super Nudge 2000	£1.99
System 8	£2.99
Tetris	£2.99
Theatre Europe	£2.99
Thundercats	£2.99
Tom Cat	£1.99
Top Gun	£2.99
Trap Door 1 or 2	£1.99
The Train	£2.99
Treasure Island Dizzy	£2.99
Turbo Esprit	£1.99
Turf Form	£2.99
Twin Turbo V8	£2.99
U.S Basketmaster	£2.99
Wembley Greyhounds	£2.99
Who Dares Wins 2	£1.99
Wizball	£2.99
Wonderboy	£2.99
World Class Leaderbord	£2.99
World Games	£2.99
Yie Ar Kung Fu	£2.99
Yogi Bear	£1.99
Zybex	£2.99

SOFWARE CITY SPECIALS

Alternative World Games	£2.99
Blasteroids	£2.99
Chain Reaction	£0.50
Cholo	£0.99
Deactivators	£0.50
The Deep	£2.99
Deep Strike	£1.99
Empire Strikes Back	£2.99
Heartland	£0.50
Hive	£0.50
Kinetik	£0.50
Last Ninja 2	£4.99
L.E.D Storm	£2.99
Lee Enfield Tournament (disc only)	£2.99
Live and Let Die	£2.99
Mega Apocalypse	£1.99
Overlander	£2.99
Passing Shot	£3.99
Pepsi Mad Mix	£2.99
Rasputin	£0.50
Shackled	£2.99
Shadowfire	£1.99
Slaine	£1.99
Spaced Out/Realm (disc only)	£2.99
Spitting Image	£2.99
Stryfe (disc only)	£2.99
Tiger Road	£2.99

FULL PRICE	CASS	DISC
A.P.B.	£6.99	£9.99
After The War	£6.99	£9.99
Batman The Movie	£6.99	£9.99
Beach Volley	£6.99	£9.99
Beverly Hills Cop	£6.99	£9.99
Black Tiger	£6.99	N/A
Bloodwych	£6.99	£9.99
Bomber	£9.99	£13.99
Brian Clough's Football	£6.99	£9.99
Cabal	£6.99	£9.99
Carrier Command (128K)	£9.99	£11.99
The Champ	£6.99	£9.99
Championship Golf	£6.99	N/A
Chase H.Q.	£6.99	£9.99
Continental Circus	£6.99	£9.99
Crazy Cars 2	£6.99	N/A
Cricket Master	£6.99	N/A
Cyberball	£6.99	£8.99
Double Dragon 2	£6.99	£9.99
The Duel (Test Drive 2)	£6.99	£9.99
Dynamite Dux	£6.99	£9.99
Emlyn Hughes	£6.99	£9.99
Fiendish Freddy	£6.99	£9.99
Fighting Soccer	£6.99	£9.99
Footballer of the Year 2	£6.99	£9.99
Football Director	£6.99	N/A
Football Director 2 (128K)	N/A	£13.99
Football Manager 2 + Expansion	£6.99	£9.99
Ghostbusters 2	£7.50	£9.99
Gunship	£9.99	£13.99
Hard Drivin'	£6.99	£9.99
Indiana Jones Last Crusade	£6.99	£9.99
Kenny Dalglish	£6.99	£9.99
Knight Force	£6.99	£8.99
Lazer Squad	£6.99	N/A
Microprose Soccer	£9.99	£13.99
Myth	£6.99	£9.99
New Zealand Story	£6.99	£9.99
Ninja Warrior	£6.99	£9.99
Operation Thunderbolt	£6.99	£9.99
Paul Gasgoine Super Soccer	£6.99	N/A
Pinball Magic	£6.99	£9.99
Pipemania	£6.99	£9.99
Powerdrift	£6.99	£9.99
Project Stealth Fighter	£9.99	£13.99
Rainbow Island	£6.99	£9.99
Rick Dangerous	£6.99	£9.99
Robocop	£6.99	£9.99
Scrambled Spirits	£6.99	£9.99
Shinobi	£6.99	£9.99
Skate or Die	£6.99	£9.99
Starglider 2	£9.99	£13.99
Star Wars Trilogy	£8.99	£13.99
Strider	£6.99	£9.99
Stunt Car	£6.99	£9.99
Super Wonder Boy	£6.99	£9.99
Tintin	£6.99	£9.99
Tolkein Trilogy	£8.99	£11.99
Toobin	£6.99	£9.99
Tracksuit Manager	£6.99	N/A
Treble Champions	£6.99	N/A
Turbo Outrun	£6.99	£9.99
Tusker	£6.99	£9.99
The Untouchables	£6.99	£9.99
Vulcan	£6.99	N/A
War in Middle Earth	£6.99	£9.99

COMPILATIONS

THE BIZ
R-Type, Operation Wolf, Double Dragon, Batman the Caped Crusader **CASS: £9.99**

MEGA MIX
Operation Wolf, Barbarian 2, Dragon Ninja & Real Ghostbusters **CASS £9.99**

WINNERS
Indiana Jones Temple of Doom, Blasteroids, Led Storm, Thunderblade, Impossible Mission 2
CASS: £9.99 DISC: £13.99

100% DYNAMITE
Afterburner, Last Ninja 2, Wec Le Mans, Double Dragon **CASS: £9.99**

TAITO COIN OPS
Rastan, Flying Shark, Arkanoid 1 and 2, Slapfight, Bubble Bobble, Renegade and Legend of Kage.
CASS: £8.99

KONAMI ARCADE COLLECTION
Jail Break, Green Beret, Yie Ar Kung Fu 1 & 2, Ping Pong, Mikie, Jackal, Hypersports, Nemesis, and Shao-Lins Road.
CASS: £8.99 DISC: £11.99

SPECIAL ACTION
Driller, Captain Blood, The Vindicator, Daley Thompson's Olympic Challenge and S.D.I
CASS: £8.99 DISC: £11.99

WE ARE THE CHAMPIONS
Supersprint, Renegade, Rampage, I K+ & Barbarian
CASS: £6.99

IN CROWD
Karnov, Gryzor, Barbarian, Crazy Cars, Predator, Combat School, Platoon and Target Renegade
CASS: £9.99

SUPREME CHALLENGE SOCCER SPECTACULAR
Peter Beardsley's Int. Football, Soccer Supremo, Football Manager, World Champions and Peter Shilton's Handball Maradona
CASS: £8.99 DISC: £11.99

SUPEREME CHALLENGE
Elite, Starglider, Ace 2 Sentinel and Tetris
CASS: £5.50

GAME SET AND MATCH 2
Match Day 2, Superbowl, Winter Olympiad, Nick Faldo, Championship Sprint, Track and Field, Steve Davis Snooker & Super Hang On
CASS: £8.99 DISC: £11.99

SOCCER SQUAD
Footballer of the Year, Gary Linekar's Superstar Soccer, Gary Linekars Superskills and Roy of the Rovers.
CASS: £6.99 DISC: £9.99

THE STORY SO FAR VOL. 2
Overlander, Hopping Mad, Space Harrier, Beyone the Ice Palace & Live and Let Die
CASS: £8.99 DISC £9.99

THE STORY SO FAR VOL. 4
Ghostbusters, Aliens, Wonderboy, Eidolon, Back to the Future & Quartet
CASS: £8.99 DISC: £9.99

COIN OP HITS
Outrun, Road Blasters, Spy Hunter, Thunderblade & Bionic Commando
CASS: £9.99 DISC: £13.99

GIANTS
Rollling Thunder, Gauntlet 2, 720, Outrun, California Games
CASS: £9.99 DISC: £13.99

THEY SOLD A MILLION
Sabre Wolf, Daley Thompson, Jet Set Willy & Beach Head.
CASS: £4.99

BEST OF ELITE VOL. 1
Bombjack, Frank Bruno, Commando & Airwolf
CASS: £4.99.

ORDER FORM AND INFORMATION

All orders sent **FIRST CLASS** subject to availability.
Just fill in the coupon and send it to: Software City, Dept. AMS, 3 Lichfield Passage, Wolverhampton, WV1 1DZ.

ORDER FORM (Block Capitals)

NAME: ____________________

ADDRESS: ____________________

POSTCODE: __________ TEL: __________

Name of Game	Computer	Value
	Postage	
	TOTAL	

POSTAGE RATES: Please add 50p for post & packaging on all orders under £5. Overseas add £1.50 per item.
PAYING BY CHEQUE: Cheques payable to **Software City**

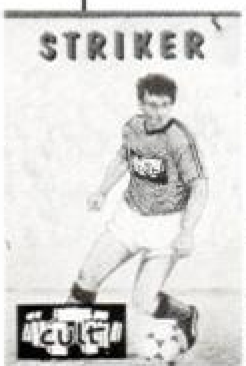
Card Type __________
Expiry date __________

Signature __________
Date __________

European Orders Mastercard

STRIKER

Cult ● £2.99 cass
joystick/keys



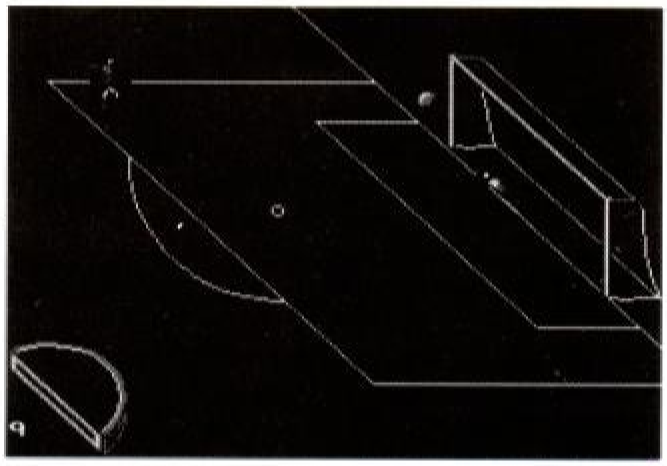
Life as a professional footballer isn't all glamour, glory, getting drunk and partying with bimbos. There's hard work to be done on the training pitch and the nerves of the big match to face.

As 'star' striker for a fourth division side you must work through a year of matches, trying to improve your goal average and helping the team to win promotion. And all the time you should stay ready to make a move if a really famous club takes an interest in you...

This is a football management sim that puts you in control of one player, not a team. You concentrate soley on career opportunities and getting your name in the tabloid press as the next Gary Lineker.

There are three parts to the game. The first is keeping an eye on the other clubs wheeling and dealing in players, trying to buy success. The second – and possibly most important section – is the training, where you get to practice taking shots. Success here improves fitness and form, which enhances your chances of scoring in the match sections.

The transfer market is a hotbed of rumours that you can play to your personal advantage by making yourself available when the big clubs come talent-spotting. Training is a three-shot test of form. Your striker is drawn in front of the goal and a directional indicator swings from side side to side, helping to place the ball. The goalie saves shots and the angles are sometimes hard to judge, but if you score then your form and asking price start to climb.



● Shoot, *shoot...!*

SECOND OPINION

For a decision-making football game, you don't seem to make an awful lot of decisions. **AW**

GREEN SCREEN
No change.

In the match that follows a training session, you simply wait as the seconds tick by until the message that "you're through with a chance" appears. Then, like the practice before the game, the line indicator pops up and you have the chance to score when it really counts.

The standard conventions of a management sim are met, and there's seemingly endless hours of waiting around while you wait to be transferred or recover from an injury. But concentrating on one player keeps the complexity to a minimum and the game speed high. The chance to influence the outcome of a game with shots is refreshing, even if you do have to wait a whole 90 minutes for a single moment of glory. Management games will never be exciting, but this one's at least fun and reasonably quick. For 'wannabies' (I want to be John Barnes) everyhwere, it could prove a cheap and amusing diversion. **TW**

FIRST DAY TARGET SCORE

Get out of the Fourth Division

The Verdict

GRAPHICS **44%**
■ Mostly text – a few small graphics.

SONICS **33%**
■ One small jingle plus the odd whistle.

GRAB FACTOR **66%**
□ A speedy soccer sim!

STAYING POWER ... **77%**
■ It's a long slog to fame and fortune.

AA RATING **60%**

□ Fun but rather remote.

BEYOND THE ICE PALACE

Encore ● £2.99 cass
joystick/keys

Before you can say 'Resident System eXtension', all manner of beasties start creeping out of the woodwork in this outing from Encore, and go on to wreak all kinds of havoc down on the farm. So logically – if logic has anything to do with legends – the town elders send you, not an army, to sort them out.

So you start the long and dangerous trek *Beyond the Ice Palace*, hoping to stop this nonsense once and for all. The result is an arcade adventure that takes you through tunnels and into strange lands, littered with the worst things wizards can imagine. Armed only with a single weapon, you run, jump and throw knives/swords/axes to kill people/things/monsters – and that's about all.

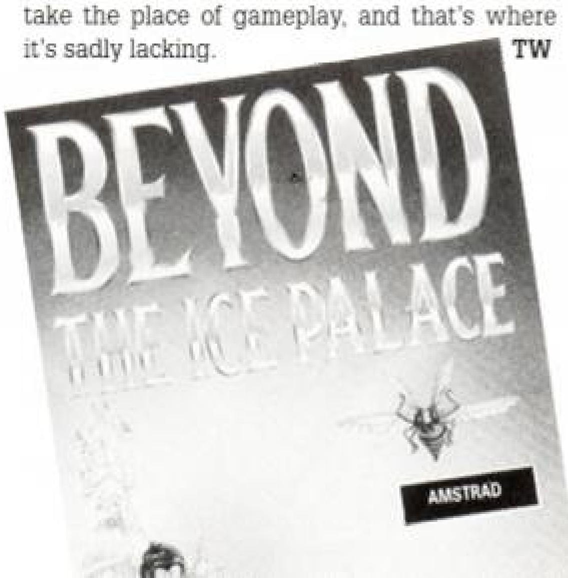
The game structure is terminally impaired by the speed of the foes, who move too fast and kill too quickly, so you can never really get into the game. Even the supporting cast of pretty graphics and nice sounds can't repair this damage, although they do try. Some people may find this level of difficulty a real challenge, but most will just find it a frustrating and irritating experience.

SECOND OPINION

Graphically good for its age, but far too tough to begin with. **AW**

GREEN SCREEN
Green ice is still visible.

In a world crammed full of arcade adventures (*Myth*'s an excellent example) they have to be pretty special to make their mark. *Ice Palace* tries to be the 'tough kid' on the block, but overly dangerous opponents can never take the place of gameplay, and that's where it's sadly lacking. **TW**



FIRST DAY TARGET SCORE

Survive for ten minutes

The Verdict

GRAPHICS **77%**
□ Strong backgrounds and characters.

SONICS **71%**
□ Good tune.

GRAB FACTOR **44%**
■ You die very quickly...
■ ...then you die some more!

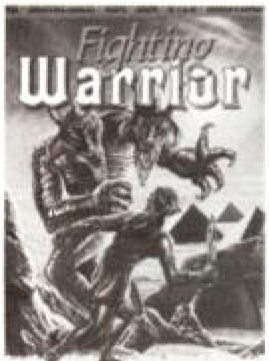
STAYING POWER ... **33%**
■ The monsters are too strong to maintain your interest.

AA RATING **50%**

□ Reasonable arcade adventure that substitutes difficulty for gameplay.

FIGHTING WARRIOR

Mastertronic ● £2.99 cass joystick/keys



In the red corner... the undisputed heavyweight sword fighting champion of all Egypt. That's you, and it's that same sorry tale of daft royalty and heroic commoner. They get kidnapped and you have to risk everything to save them. But what else can one expect when you're a *Fighting Warrior*?

That's the plot out of the way, now it's down to some pretty intense violence. Mr F Warrior, your man, has to walk along a horizontally scrolling landscape killing monsters and guards in a bid to rescue his queen. He has a sword and a little bit of skill to help him on his way, the rest is up to you.

All he has to do is use three fighting sword strokes and few defensive parries to see off demons and devils. The most immediate need is surviving long enough to reach the next bottle of life-giving elixir, though. He needs it because with such a limited number of sword strokes he's bound to get hurt in every encounter. The monsters vary, but not much, and they're all vicious and potentially deadly.

The outline graphics show the age of this re-release. Combine this clue with the antiquated gameplay – where seven moves are enough to justify the game – and you know this is something of a curiosity. There's an attempt at parallax scrolling, but little else. It's just walk, fight, kill and die.

It's easy to be killed and hard to stay alive, and this mix, while knife-edge stuff occasionally, is a flawed basis for a game.

There's no room for the development of skills that will help you overpower the opposition, where by following a learning curve you get further in to the game. This is patently not the case and *Fighting Warrior* quickly becomes *Dying Warrior* as the game stagnates. Set in the world of ancient Egypt, it's more of a relic than an archaeological treasure. **TW**



● *Aaagh* – stabbed in the gizzard by a mutant Jack Russel!

SECOND OPINION

Not enough fighting moves. Slow and boring. Crushingly dull. That about covers it, I think. **AW**

GREEN SCREEN

Outline sprites are clear in any colour.

FIRST DAY TARGET SCORE

Stay awake

The Verdict

GRAPHICS 41%
- ■ Dated main characters.
- □ Reasonable background scrolling.

SONICS 54%
- □ Authentic Egyptian music!

GRAB FACTOR 66%
- □ Killing is hard work but simply understood.

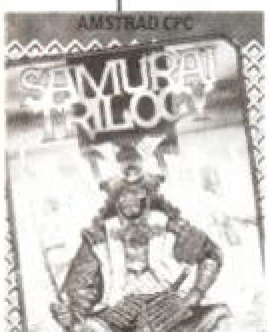
STAYING POWER ... 31%
- ■ Too few fighting moves.
- ■ Very repetitive.

AA RATING 42%

□ Tired old warrior looking for a new home.

SAMURAI TRILOGY

Kixx ● £2.99 cass joystick/keys



You've seen the movies, one swift chop to the neck and the heads go flying. Well now's your chance to live out those *Seven Samurai/Water Margin* fantasies, as Kixx let you train up in the *Samurai Trilogy*.

Karate, Kendo and Samurai are the disciplines, and there's a whole stable full of talent who want to beat you up every step of the way. You can only win the title of Lord by defeating four others in a fight to the death. And you only have the right to go for the title once you've proved to the master that the three disciplines have been learned properly.

First you go head to head in the Karate, prancing around on tip-toe trying to kick the living daylights out of each other. Kendo and Samurai are much the same, just using different weapons and techniques.

You can vary the training to gain an edge, using special techniques to improve your stamina or speed. Then you allocate the amount of time you want to spend on improving various elements of your defence and attack. The right choice is imperative and the wrong decision here could leave you frighteningly vulnerable.

The variety of choices before each fight make the characters exceptionally flexible and very strong. These elements are actually reflected in the way the guy fights too, with hits being more damaging from a strong character but more accurate from a skilful one.

SECOND OPINION

A complex – and fiddly – combat game that's nevertheless good value. **AW**

GREEN SCREEN

Slightly jaded – ho ho ho.

There are some vagaries when controlling the combat, but for big sprites they handle well and fast – the joystick controls seem really sensitive. Like *Fighting Warrior*, the first few battles are very hard going, but here there's definite room for some skill development. This makes the game a more challenging proposition and gives it a depth that's rarely found on the budget rounds. It's almost worth the price just to read the biog's of the other samurai – they could have been written for the *Sunday Sport*! **TW**



● Never mind "hit Return" – hit the other geek!

FIRST DAY TARGET SCORE

Beat someone

The Verdict

GRAPHICS 55%
- □ Big spites.
- □ Colourful backdrops.

SONICS 69%
- □ Oriental music throughout.

GRAB FACTOR 57%
- ■ Hard to control at the start.
- □ Constant humour.

STAYING POWER ... 68%
- □ A learning game.

AA RATING 64%

□ A fun multi-style combat game.

WARNING





THIS SORT OF BILL IF YOU PAY FOR THEM

THIS SORT OF BILL IF YOU DON'T

A pirated game could result in a visit from you know who.

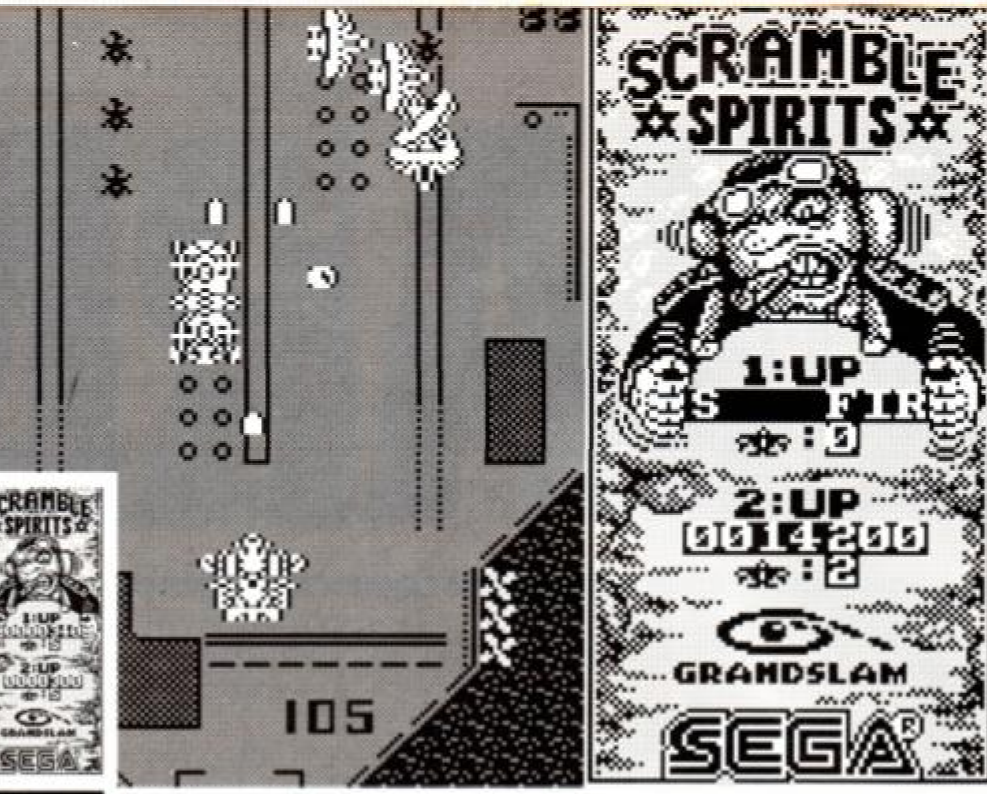
THIS CAMPAIGN IS ORGANISED BY
ELSPA
EUROPEAN LEISURE SOFTWARE PUBLISHERS ASSOCIATION

Any information on piracy should be passed to The Federation Against Software Theft. Telephone 01-240 6756

PIRACY IS THEFT

SCRAMBLE SPIRITS

Grandslam ● £9.99 cass, £14.99disk. joystick/keys



● Going for a power-up' on Level One.



● Two-player action makes life even easier.

Fighter pilots of WWII have a certain mystique. They were the last generation of fliers who fought with guns and not guided missiles. It was the skill of the pilot and not the technology he carried that decided the outcome.

For these reasons, WWII planes have been the basis of some famous shoot-em-ups: *1942*, *Typhoon* and last month's *P-47*, to name but a few. It's also the setting for this Sega licence *Scramble Spirits*, a two-player blast that has you bombing, shooting and strafing everything even slightly German (*don't mention the war! – ed*). But why "Scramble"? Well, because "Scramble!" was the command that would launch them into their planes and a life or death struggle...



● The power-up gives you extra bullets or bombs.

A horizontal shoot-em-up, the game opens with one or two pilots taking to the air. They scroll to the top of the screen and the battle begins. The planes have a double front cannon and move in all directions, while the screen rolls relentlessly down. Nazi planes wing in from the top and sides firing away, generally proving little trouble unless they pop on in an unexpected position.

The ground forces needn't feel left out, there are plenty of bunkers and tanks to put up flak. These can be bombed out of existence with the front guns, which also drop large amounts of TNT ahead of the plane. With waves of aircraft and ground fire, things can get pretty hectic, but it's nothing an experienced arcade player can't handle.

Odd things happen every now and then. Smart bombs and extra firepower appear, but prove difficult to collect, and more trouble to use than they're actually worth. Special formations of gun emplacements make things even trickier, and life shorter. The end-of-level guardians are particularly hard to kill, but far from dangerous.

The limits of the game are obvious from the word go. The monochrome (well, two-colour) world is far from enthralling to look at. The sprites are small and the bullets occasionally invisible. There's no pace in the game, you plod along just shooting and waiting, life never getting any harder. This could be due to the lack of 'power ups' on offer, but also the fact that it's hard to make a horizontally scrolling shoot-out any more difficult without making it impossible to play.

Technically, *Scramble* is fine. The planes move where they're told quickly and precisely. Yet this can't disguise the fact that it's boring. Even in two-player mode there is little to do but hang around and slaughter people in their thousands (even a weird key selection doesn't make it any tougher). The screen speed is slow, there are large gaps between the level's end and the guardian, and precious few 'pretties' to look at in the meantime.



● Head to head with an end-of-level guardian.

The credit feature just makes things worse by being too generous. It probably sounded a really smart idea in the planning stage, but effectively lets you carry on getting nowhere – slowly.

Looking at the number of shoot-em-ups Sega has designed over the years it's not surprising that it comes up with the occasional donkey. This is one of them! It runs to the same old formula and doesn't introduce, or even consider, any fresh approaches. Had it been done in glorious technicolour then at least there would have been cries of "nice graphics shame about the game"...

Scramble Spirits illustrates the worst side of the games industry, where any licence is preferable to the risk involved in an original product. And software houses are often unable to change the basic design of the licence even to make it suit a home computer instead of an arcade.

Scramble is programmed proficiently and plays without a glitch, but it takes more than that to make a good game. It plays like a Kylie Minogue record – everything's in the right place and does what it should, but the end result in incurably bland. Besides, at least Kylie Minogue's got nice... (*er yes, that's enough of that – ed*) TW

SECOND OPINION

Quite apart from the fact it's an obvious Speccy port, it's just too easy and too dull. It's bad enough in two-player mode, where all there is to do is argue over who gets the power-ups, but for one player it's worse. ***RL***

GREEN SCREEN
Perfectly suited.

FIRST DAY TARGET SCORE

Finish the second level

The Verdict

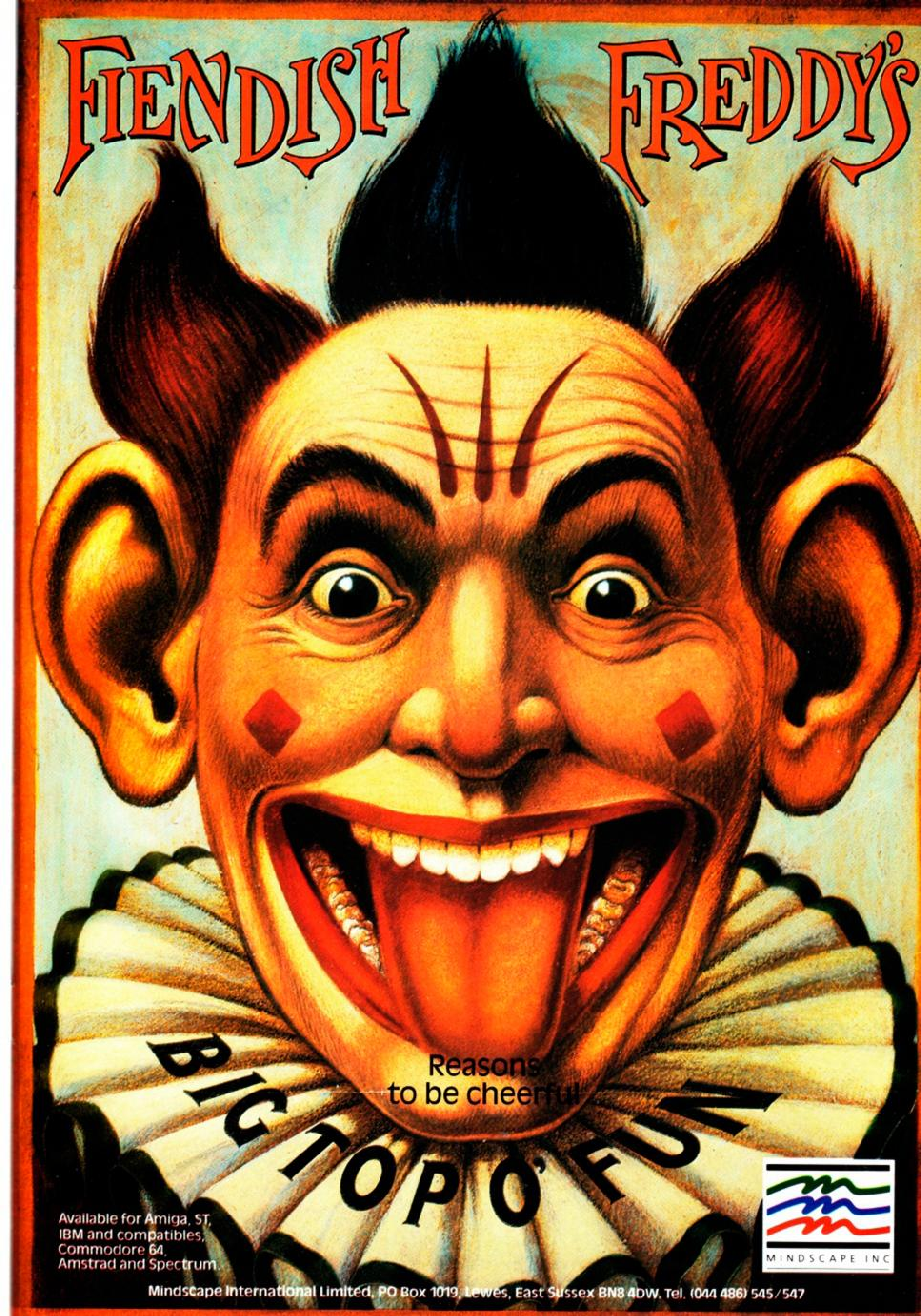
GRAPHICS 41%
- Dull Speccy port.
- Small spirites, invisible bullets!

SONICS 50%
- Average acoustics.

GRAB FACTOR 66%
- You can go far on the first at the try.
- Endless credits!

STAYING POWER 31%
- Gets dull very quickly.
- Nothing different happens.

AA RATING 41%
- Technically together but unispiring arcade.


FIENDISH FREDDY'S
Reasons to be cheerful
BIG TOP O' FUN
Available for Amiga, ST, IBM and compatibles, Commodore 64, Amstrad and Spectrum.
MINDSCAPE INC
Mindscape International Limited, PO Box 1019, Lewes, East Sussex BN8 4DW. Tel. (044 486) 545/547



● Great animation gives your fighter an edge.



● If you can't beat 'em, shoot 'em!

WILD STREETS

Titus ● £9.99 cass, £14.99 disk joystick/keys

Do you get a kick out of your job? James Taylor does. In fact he gets kicks, punches, head-butts and even knees to the groin, all as part of his daily routine. He's an enforcer for the CIA, a super spook who takes on missions too dangerous for even the most elite army units. It's his task to clean up New York, where once-peaceful suburban boulevards have become Wild Streets.

The year is 1998. Organised crime barons had a stranglehold on the metropolis until two



● A thug goes flying after a crisp right to the chin.

weeks ago. Then, a massive security operation was launched in one last, desperate bid to save the city. The drug lords' response was swift and decisive. They kidnapped CIA top dog John Stevens and will kill him if the cops don't ship out immediately. Your job, as James Taylor – hitman and kick-boxer extraordinaire – is to set him free.

The concept's pretty straightforward. You walk your main man horizontally along scrolling streets, beating thugs out of your way for five levels, in order to save your boss. Then you guide your lord and master back through the same five levels to a waiting helicopter and safety.

On the way, you get the assistance of a large black panther who leaps into the fray at a moment's notice, and an even larger pistol that can be used to top any particularly sticky opponents.

Fighting needs fast reactions and a whole gamut of moves to allow you to out-react and out-manoeuvre opponents. James Taylor has lightning-fast hand speed and 15 different actions – a true terminator. The other guys have a similar range, but rarely stray away from predictable patterns, making them easy meat for the quick thinker.



● James Taylor feels the heat in the later levels.

If the going gets too heavy and your energy bar dips to dangerous levels, in pops your puss cat and tears a few of them to shreds. If you're far enough away you can blast them with the gun, too, but with only a limited number of shots and few chances of a reload, discretion is definitely the better part of valour.

Once you manage to get to the end of the fifth level, your panther pal does a runner and you pick up the zombie-fied CIA boss (no, not George Bush!) who follows you slowly back. Objective One is staying alive and keeping on the move. Stand around revelling in the fist fights, and the bad guys begin to kick the living daylights out Mr Stevens, your boss. If he dies then it's game set and match to the Sicily squad. James Taylor can beat his boss about too, but that smacks of stupidity even if it is satisfying.

As an action adventure, *Wild Streets* relies on its graphics and animation and in that respect is above reproach. Flashing fists and feet are the result, with James Taylors moves clear even in the heaviest traffic. The incidental graphics, too, as we've come to expect from Titus, are viciously pretty with two stunning overscan screens thrown in for good measure.

SECOND OPINION

Looks great – the graphics are almost 16-bit – but as far as I can see it's just another scrolling kick-em-up. RL

GREEN SCREEN

Mean and clean in green.

The action's helped along by great music that plays constantly, its regular tempo providing a counterpoint for the peaks and troughs of the war that's begin waged on-screen. All these efforts are recorded for posterity on a permanent high score table, a feature that would go down well on most games.

Unfortunately, the big failing of the game is the way it plays. On the earlier levels it's possible to avoid all contact, apart from the end-of-level master, just by frog-hopping past everyone. The Mafia are apparently unable to attack anyone who moves in mysterious ways. And on the later stages, where it's really necessary to use the gun, the real difficulty ain't in staying alive – just keep on jumping – but getting far enough away from somebody to shoot them. It may be realistic, even New York thugs not relishing the idea of being shot, but it makes for some wildly irritating minutes of leaping and blasting.

Wild Streets is a beautifully executed game that comes close to simulating the speed and accuracy needed for serious street-fighting – but it's unbalanced. James Taylor is too powerful to begin with, while the lack of variety on the villain front means that they just become agonisingly difficult to catch rather than kill.

After a few quick and very violent games you'll realise there are two ways to play; either cheat and go for victory or stand and fight. If you decide that winning is the only thing that matters, then it's far too easy to complete. It's streets ahead of games like *Ninja Warriors* (with which it shares a great many gameplay features) but isn't nearly wild enough. TW

FIRST DAY TARGET SCORE

Reach John Stevens

The Verdict

GRAPHICS 88%
- Slick animation.
- Great backdrops.

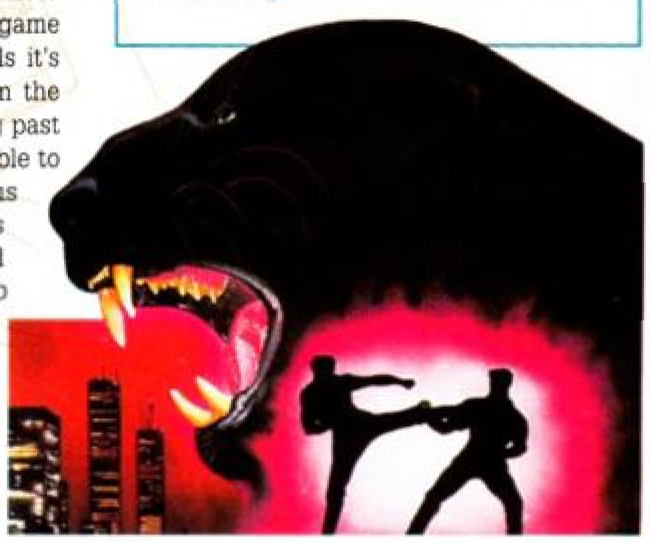
SONICS 83%
- Constant theme throughout.
- Strong effects.

GRAB FACTOR 77%
- Thugs are easily beaten.

STAYING POWER ... 42%
- Easily finished if you 'cheat'.
- Very frustrating in parts.

AA RATING 71%

- Strong fight sim, but lacks that extra something.




BATTLE TILL YOU BLEED!
HEAVY METAL
By Bruce Carver, Roger Carver and Breat Erickson.
CBM 64/128, AMSTRAD CASSETTE & DISK. IBM P.C.
SPECTRU 48/128K CASSETT ATARI ST AMIGA
INCLUDES FREE! BEACH HEAD GAME
8-BIT FORMATS ONLY.
BEACH-HEAD
ACCESS Software incorporated
© ACCESS SOFTWARE INC. 1990.
HEAVY METAL
MODERN LAND COMBAT VOL. I
Screenshots from various formats
U.S. Gold Ltd, Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 625 3388.

RAINBOW ISLANDS

Ocean ● £9.99 cass, £14.99 disk joystick/keys

Somewhere, over the rainbow, way up high... lives a little boy who wants to go adventuring. He wants to see the world of Rainbow Islands before it's flooded out of existence once and for all. A land so cute it makes My Little Pony and The Care Bears look like Detroit street gangs.

The aim of the game is to work your way to the top of a platform world, avoiding all these big, horrible beasties who are out to get you. To help you survive this ordeal you've one special weapon. Not a gun, not a bomb, not even the ability to 'tolchock someone in the yarbles' (*Clockwork Orange*? Stanley Kubrick? Oh, never mind) – just rainbows!

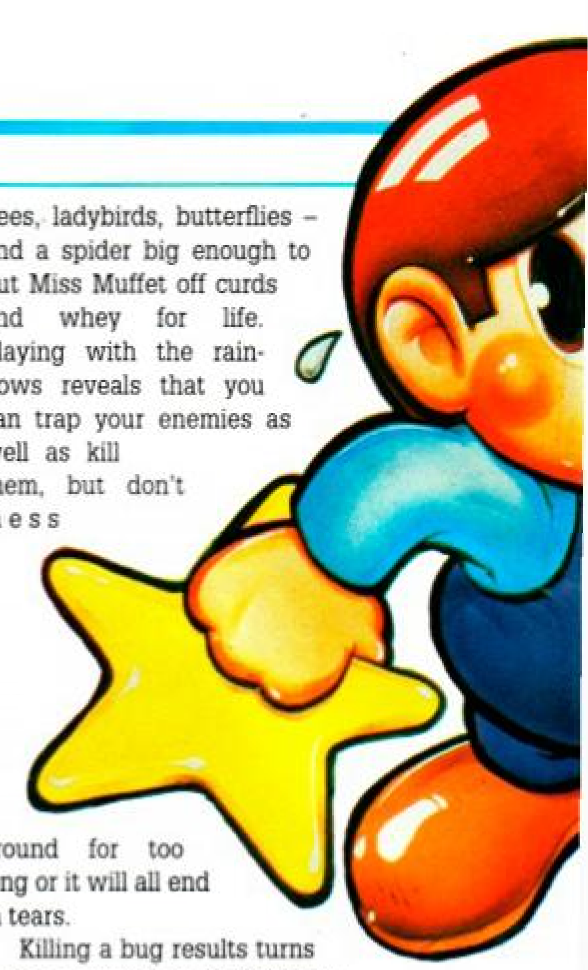
Now this isn't the raw deal it may sound, because if there's one thing the inhabitants of the islands don't like it's rainbows. They hate them, in fact, mainly because they're fatal! Now these rainbows can also support your body weight, which proves very handy indeedy! Fire one out in front and jump on, and all of a sudden you've a solid platform in mid-air. A definite must in a land of ever-smaller platforms that are ever-further apart.

The star of this cutesy extravanganza is a small lad, the villains of the piece all manner of monsters and machines. Our hero (who can be politely described as stout) wobbles more than runs, but his size doesn't inhibit his ability to leap up to the next level. When he finds himself out of reach of the next platform, then the true value of the rainbows becomes apparent, paving the way ahead like multicoloured stepping stones (*I think I'm going to be sick – ed*).

AA RAVE!

On his travels to the top our hero encounters mountains of food left lying around, and of course picking up the grub gives him special powers in the best platform game tradition. The 'bows come in handy here too, because if your rainbow touches an object it's yours!

The first four stages are on Insect Island, a land filled to overflowing with caterpillars, bees, ladybirds, butterflies – and a spider big enough to put Miss Muffet off curds and whey for life. Playing with the rainbows reveals that you can trap your enemies as well as kill them, but don't mess around for too long or it will all end in tears.



Killing a bug results turns it into a munch or, even better, one of the magic crystals you seek. When one of them gets you, a tantrum's the result. Over onto his back goes the little guy, feet kicking and spurts of angry tears squirting out of his eyes.

Soon, the ways the various insects attack become obvious, as do the special properties of the the items collected on your journey. The best of all has to be the double 'bow jugs. Get one of these and the range of your rainbows increases by a factor of two, get another and it's tripled. You can zap the creepy crawlies from a safe distance, and get items almost without moving.

As you work your way through the first island the text messages give you helpful hints like "hurry up" – you'd better pay attention. The whole island is flooding and you must make it to the top before time and tide catch you out. Hang around too long and the water will start creeping up the screen...

Reaching the top of the world earns you the right to some freebies. A shower of stuff flies up, which you've only got a limited time to catch. It doesn't seem to do much good, though, apart from earning points. And points soon lose their importance as each level becomes an individual challenge that has to be finished no matter how many goes it takes.

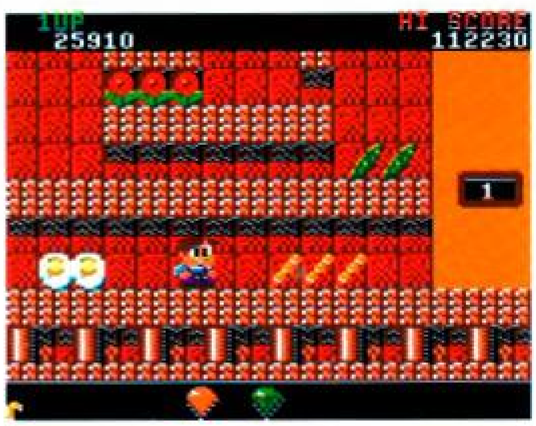
The conclusion of the Insectoid Isle is a showdown with the big spider, a super arach-



● When you visit Comabt Island you'll need all the double rainbows you can lay your hands on.



● When you die, you cry.



● Grab those eggs for extra points.



● Look out for those helicopters.



nid who has to be systematically stripped of his energy. This can only be achieved by running, jumping and shouting a lot. The first two factors reflect the gameplay, the third increasing difficulty.

After topping the spider you travel to Combat Island, which is inhabited entirely by small scale models of military vehicles. These are cute but deadly, and actually fire back (*don't blame 'em – ed!*). Island world after island world follows this in nice small stages, each with a harder nasty to kill and a more severe flooding problem. The difficulty factor increases almost as fast as the addiction.

The gameplay level is intense, as more and more of the platforms can only be reached by carefully laying a rainbow trail

SECOND OPINION

Nice graphics and very playable, a really good game. The soundtrack reinforces the cutesy style wonderfully – but how much cute can you stand? **AW**

GREEN SCREEN
A waste, but perfectly playable.

ahead of you. This is dangerous stuff, especially once the floods have become a visible threat, because if you hit a 'bow wrong then it crumbles into multi-coloured dust. This leaves you hurtling downwards, desperately trying to find something to land on before splashdown. There are also jewels to collect en route, each displayed at the bottom of the screen. But for the first few games these are



● Use the rainbows to leap between platforms, but watch out – they don't last for ever.

of little interest as you strive to get further than ever before.

The overall execution is exceptional, with only the slightest hint of flicker on the main sprite to mar the extremely polished effect. This is soon forgotten as the rainbow magic works its spell. It's simple in concept and laid out as if to appeal to the three year olds among us. Look deeper, and after a few games you'll be hooked.

It's refreshing to see a game that doesn't rely on violence to sell itself, just solid gameplay, vivid colourful graphics and a neat coin-op licence. *Rainbow Islands* has a blend of overtly cute humour and cunning design that will win it a horde of fans.

One thing, though – whatever you do, under no circumstances should you ever play *Rainbow Islands* in front any younger brothers and sisters, or your CPC won't be yours much longer! **TW**

FIRST DAY TARGET SCORE
Finish the Combat Islands

The Verdict

GRAPHICS **90%**
- It's all so cute!
- Glorious technicolour – eat your heart out!

SONICS **65%**
- Maddeningly twee and constant tune.
- Few effects.

GRAB FACTOR **94%**
- Instantly addictive.
- Simply played.

STAYING POWER ... **92%**
- Technique is all-important.
- You just have to finish the next level.

AA RATING 88%
- Frighteningly fun and overpoweringly cute.



● A truck attacks on Level Five.



● Kill the spider to proceed.



● The freebie section at the end of a level.

BALROG

Balrog the Bold bulldozes his way through another bag of (*that's enough – ed*)

Balrogs! Arise from your wintry sloth! Gird your loins and brush your teeth, for the Balrog has arrived! Read the many missives the Balg has collected from his mail-box in the gnarled oak somewhere in the depths of Mirkwood. Plus the reviews of adventure clubs and all the usual news, clues and help for Balrogs in distress...

THE BALROG'S POSTBAG

● Your wish is my command

Could you please print somewhere in your hallowed pages a list of fanzines containing maps, help etc, which would be very useful. I've only been playing adventure games for about 12 months. I cut my teeth on a game called 'Heavy on the Magick' and for my money this is one of the best games I've ever seen. Were there ever any follow-ups to the game as was promised in the accompanying booklet? I still haven't managed to get through one of the exits – 'paradise' – and if you know the password then please put me out of misery. Long live Axil (and Balrog of course)

Stephen Turzynski

No sooner said than done Stephen! See elsewhere in this column for a complete list of adventure clubs available to the CPCer. Heavy on the Magick was unfortunately never expanded, so it looks like Axil is forever destined to roam the dungeon. If anyone can help Stephen with the password please write in.

● Cyrptci Hnist!

"Why don't you offer a prize for the best cryptic hints? This way us adventurers with very little brain could at least salvage some pride from the situation of being stuck, i.e. a lot of the time a gentle push is all that's needed to provide the key to finding a solution."

Tim Bell.

Great idea, Tim, the problem being that if you are not careful cryptic hints can be so obscure that you don't realise what it means until after you have solved the puzzle!

● Aaahghg!

"I've discovered another bug in Rigels Revenge!" club. Part two doesn't seem to work – could you please give me Mastertronics' address so I can replace it..."

Daniel Tish

Mastertronic's address is 2/4 Vernon Yard, Portobello Road, London W11 2DX.

Clue Sniffing with the Balrog

If a game's really getting up your nostrils, then don't despair – help is at hand. This month's tips come from the Witch of Wessex, Jerome Young, Dave Harvard, Fizban, Stuart Whyte, Peter White, Daniel Tish and Ken Dean...

Acheton

Toll Hole, S, SW, D to inside pillar, S, SE to Bend in passage, Ex2 to Timeless Cavern, wait until lamp is shining very brightly, S, SW, get the ivory chess piece, NE, E, get amber ornament, E to spiral stair, UPx2, W, read writing ("EXAKCIP"), E up the gallery, get crucifix, Dx3, W, S, Wx2 to bend in passage, NW, W, SW, E, S, get stake, N, E, NE, E, SEx2, get amethyst pendant, NW, SW, W, SW to room with Black, Blue and Grey stars.

Rigels Revenge

Escaping from the basement: Wear only your nightsights, climb onto the sink, get the medikit. Drop all except your medikit and nightsights out the window - and I mean all! Press some buttons on the kit, bend bar up, pull bar, pull bar hard, bend bar up, then drop the medikit out the window then jump out yourself.

Scapeghost

Moving David Ridge's urn enlists his help.

Search for Largo Grann

- Type 'One Hundred and Ten' to get the password right on the cabinet.
- Keep waiting at the strange construction until the bag of Shellac appears.
- Examine wall in Star view lounge.

Guild of Thieves

Peter White has come to the aid of John Gibbins's problem in *Guild of Thieves*:

If he has all the treasures banked then he must go to the bank where he will find that it is open for business. He still has a lot of tricky problems to solve and his final aim is to get back to the boat with all the treasures. When the master thief sees all the treasures the game is over.

Corruption

And to Paul Daykin's aid in the land of *Corruption*:

You cannot drive out of the car park. There is no need, as all the locations in the adventure are accessible by foot. To enter the casino you need to prove to the waiter that you know it exists. Two items can do this, either the casino chips in David's safe or the book of matches with the casino name on them.



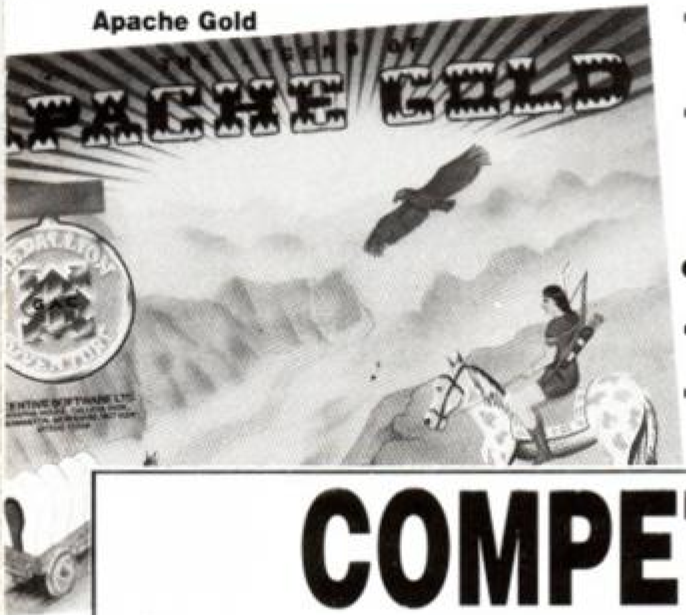
D ACTION

Lurking Horror

Ken Dean has written in with the answers to Lorry's problems in *Lurking Horror*:

To get rid of the monster: Go to the great dome, climb rope, you can't get the ladder because you're carrying too much, so drop all, get ladder and lower it. Take all and put all in container. Wear gloves, open door, out, U to the very top of the Dome. Get plug, get paper, read paper which you will find is a suicide note. D, in, close door, Dx2, Ex2, N (Fruit & Nuts), D, SE, wear boots, Ux2, read sign, open door with master key, out. You now will be in a very critical situation where timing must be perfect. U, when something smashes into the dome behind you, D, examine shape. The creature should pounce and be right next to you on the parapet. Throw stone off roof, the creature will then follow and be seen no more, well at least for some time. Then go back up and dig under the peach tree and get the hand.

Apache Gold



Hot Dry Desert: E, talk to Doctor Dodgy, given free sample, examine and get the jar, E, talk to Jake, get sack, N, get bottle, N, get rope, read tombstone, Up, cut branch (it falls into the rapids and floats to the shallow pool), D, Sx2, Wx2, S, throw rope, Up, give cure to the eagle (makes it's wings get sticky which stops it flying and stealing the corn), D, N, enter wagon, flick reins.

Rigels Revenge

Daniel Tish has written to help Trevor Fuller in *Rigel's Revenge*: To cross No-Mans land... Ex2, S, SE, E - this should take you across.

HELP!

- **Tim Bell** is stuck in a number of adventures:
  - *Rigels Revenge*: I don't know what to do when you have the gun, bomb, uniform and detector.
  - *Shard of Inovar*: I am stuck at the start, I have seen the symbol in the boulder and that's it.
  - *Venom*: I have found where the parchment is but as soon as I get out of the hole and try to go somewhere some idiot with a bow shoots me! Help me please!
- **Ken Dean** is stuck in C Sharpe's *Werewolf Simulator*:
  - Where can he get a mould and melt the silver to make some silver bullets?
  - Where does the bloodhound come into the story?

JUST FOR LAUGHS

Thanks for these adventurous rib-ticklers are due to Antcrusher, Ludwig the Egg, The Grue and Dave Harvard.

Sorceror

- Disrupting Temporal Stability in the mine (take the Golmac scroll a second time, or give yourself a different combination).
- Don't cast Vardik on yourself before casting Swanzo on Belboz.
- Aimfiz Helistar and Frobar.

Suspended

- Send Poet off to the East, towards the filtering computers. He dies in a most eloquent way.

Zork

- Just for fun, try fighting the mailbox.

Zork II

- Say "Plugh"

CONTACTING THE BALG

For those wanting to contact 'Uncle Balrog', write to him at the normal AA address. The Balg is hungry for letters of all sorts so write now or you may find yourself on the Balrog's menu...

COMPETITION WINNERS

● Level 9 Competition

The answers to the brilliant Level 9 competition were:

1. What is the surname of the star of Gnome Ranger and Ingrid's Back? BOTTOMLOW
2. What was Level 9's first science fiction game? SNOWBALL
3. Name the Level 9 game that has recently opened as a film.

Question three stumped a lot of people and answers varied from *Return to Eden* to *Adrian Mole*! Of course the correct answer was *Erik the Viking*, as all Level 9 fans will know. (though the Balrog in his generosity also accepted *Lancelot*.) The three software and T-Shirts winners were Joan Pancott, Mandy Rodrigues and Lorna Patterson, with the runner-up prizes of Level 9 T-shirts to Dave Harvard, Bob Adams, Stuart Manni, Darren Stephens, Alan Cook, Debby Howard and Ken Bond.







● Tolkien Competition

The Tolkien Competition to 'Draw the Balrog' prompted some very strange entries, including one of the Balrog skateboarding armed with a chainsaw! But the final winners were Mr David Graham (absolutely brilliant!), Simon Tierney, Paul Claydon, Daniel Borrill & Antcrusher whose marvels of modern art are displayed here.



Adventure club round-up

● Confidential

Confidential is the bi-monthly magazine of *Official Secrets*, the adventure club run by *Special Reserve*. *Confidential* does not just cover adventures but all thinking games as well as Play by Mail, Chess, Role-Playing etc. It is now the largest Adventure Club around (ACL was at one time, until it lost its reputation) with over 3,000 members, and offers two games on subscribing: *Myth* and *Gnome Ranger*.

Unfortunately Magnetic Scrolls never converted *Myth* to the CPC but you get a 'surprise alternative' which at the time of writing was *Captain Blood* (if you have either *Captain Blood* or *Gnome Ranger* OS will replace them for something else).

Included with subscription is a free adventure helpline (very similar to the Balrog's own *L&LOA*.) Subscription also includes membership to *Special Reserve* (the 'exclusive gamers club').

Overall, *Official Secrets* is an expertly-produced magazine with a very impressive list of writers which is well worth subscribing to. Be warned, though, this magazine is much more 16-bit biased than some, and you may not find much about the Amstrad, even though there are many general interest articles which apply to many machines.

Joining *Official Secrets* costs £22 (UK) for a years membership. For further information, call John Trevillian on (0279) 726585 or write to him at PO Box 847, Harlow, CM21 9PH.

● Adventure Probe

Adventure Probe is more of a group of friends than a formal club, and as such has a lovely atmosphere and many 'in' jokes. At first it appears to be quite difficult to join this elite group of adventurers, but they are all very friendly – before you know it you're part of the crowd.

As well as a comprehensive monthly magazine, *Probe* offers an adventure solution database for over six hundred games and many other facilities such as a helpline. *Probe* costs just £1.50 a month and just has to be the Balrog's favourite adventure magazine – it is very difficult to explain the enjoyment of being a *Probe* reader. Buy a sample copy today!

Mrs Mandy Rodrigues HBalg, Editor, Adventure Probe, 67 Lloyd Street, Llandudno, Gwynedd, LL30 2BN or Tel (0492) 77305 at any reasonable hour.

● Spellbreaker

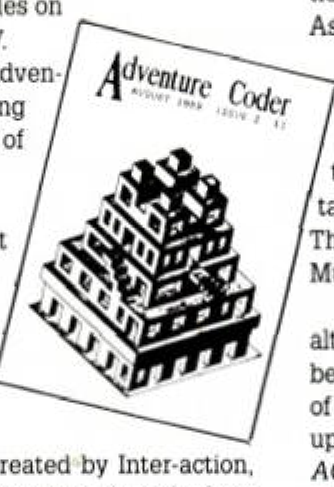


Spellbreaker is a monthly magazine which publishes maps, solutions and tips only. As such it is very good but it doesn't unfortunately have the atmosphere of the other clubs. If all you want is adventure solutions, then *Spellbreaker* is for you, but otherwise try somewhere else.

Spellbreaker costs £1.50 a month and is available from Mike Brailsford, 19 Napier Place, South Parks, Glenrothes, Fife, KY6 1DX or Tel (0592) 757788.

● Adventure Coder

Adventure Coder is a great monthly magazine edited by Chris Hester, and is all about writing adventure games. Thus it has articles on creating intelligent characters, atmosphere and hints and tips for making the most out of the various adventure creators (a bit like an extended *Programming with the Balrog*). There is an *ADLAN* column written by John Packham and many articles on *GAC* and especially *PAW*.



If you enjoy writing adventures it is essential reading and well worth the price of just £1 an issue. More details can be obtained from Chris Hester, 3 West Lane, Baildon, Near Shipley, West Yorkshire, BD17 5HD.

● Harlequin & Steel

Harlequin and Steel is created by Inter-action, a group of ex-Newsfield writers (mostly from *The Games Machine*) who have got together to form an adventure club. *Harlequin & Steel* has only been out for one issue and, although it was very professionally put together, the Balg didn't feel that there was much in it. However, the whole point of *H&S* is that the readers interact to improve the magazine, so obviously in future issues a more clubby, friendly atmosphere will develop.



The first issue also seemed to suffer from the same problem as *Confidential* – too much 16-bit coverage. An annual subscription costs £15. As well as the magazine, the subscription also covers a telephone helpline. For more information write to Interaction at the Cottage, Ashford Carbonell, Shropshire, SY8 4DB.

● Adventurers Club Ltd

Adventure Club Ltd was the largest adventure club in the UK but it gained a bad reputation when it had some financial difficulties. The club has now been revamped and Henry Mueller, the editor, is back.

This is a difficult one to recommend – although the club was once the biggest and best at one time, the temporary disappearance of Henry for over three months caused quite an uproar and, although I wish Henry luck with *ACL*, I feel I cannot recommend it, even though it has an impressive magazine, helpline and software support. *ACL* costs £24 annually (as well as an optional £7.95 for the *ACL* binder and £2 for the starter pack).

More information can be obtained from Henry at 64c Menelik Road, London, NW2 3RH

Lords & Ladies of Adventure

Grovel before the Lords and Ladies of Adventure! These brave adventurers have risked their lives to bring back from the brink of darkness and disaster hints and tips that could save your lives! So, if you're stuck in a game, drop them a line (NOT forgetting to include an SAE) and they will do their best to answer your cry.

Adventure Quest • Aftershock • Apache Gold • Arnold Blackwood Trilogy • Beer Hunter • Boggit • Bored of the Rings • Brawn Free • Bugsy • Colossal Adventure • Circus • Classic Adventure • Cutthroats • Dodgy Geezers • Dracula • Dungeon Adventure • Dungeons Amethysts Alchemists n Everything • Emerald Isle • Enchanter • Escape from Koshima • Espionage Island • Fantasia Diamond • Forest at the Worlds End • The 4th Protocol • Football Frenzy • Galaxias • Gems of Stradus • Gnome Ranger • Gremlins • Haunted House • Heroes of Karn • Hitch Hikers Guide • Hobbit • Hunchback adventure • Imagination • Inca Curse • Jewels of Babylon • Kentilla • Knight Tyme • Kobyashi Naru • Leather Goddesses of Phobos • Lords of Time • Lurking Horror • Message from Andromeda • Microman • Mindshadow • Mordons Quest • The Mural, Mystery of Indus Valley • Necris Dome • Never Ending Story • Nythyhel • Pawn • Questprobe III • Rebel Planet • Redhawk • Red Moon • Return to Eden • Return to Oz • Rigels Revenge • Robin of Sherwood • Robin of Sherlock • Seabase Delta • Snowball • Sorceror • Souls of Darkon • Spytrek • Sphinx adventure • Star Wreck • Stolen Lamp • Subsunk • Sydney Affair • Theseus • Tomb of Kuslak • Very Big Cave adventure • Warlord • Woodbury End & Zork 1!
Darren Stephens. Tel: (0795) 473490

Hitch Hikers Guide to the Galaxy • Leather Goddesses of Phobos • Lurking Horror and Moonmist.
Ken Dean, 63 Elmhurst Avenue, Oulton Broad, Lowestoft, Suffolk, NR32 3AR

Aftershock • Brawn Free • Case of the Mixed up Shymer • DAA • Experience • Fantasia Diamond • Forest at the Worlds End • Grange Hill • Haunted House • Heroes of Karn • Kobyashi Naru • Lancelot • Lords of Time • Message from Andromeda • Mindshadow • Rigels Revenge • Seabase Delta • Spytrek • Subsunk • Terrormolinos • Three Weeks in Paradise • Trial of Arnold Blackwood and Warlord.
Debby Howard, 10 Overton Road, Abbey Wood, London, SE2 9SD

Meanwhile, what about you? Have you finished a game recently, and would like to offer help to others? If you would, drop me a line giving your name and address and the games on which you're offering help. Everlasting fame and fortune will come your way, not to mention the chance of making friends with people far and wide. If you're REALLY keen, you can include a phone number, but DON'T do so without first checking with other members of your household. You may receive many calls, and adventurers tend to keep strange hours! And if you're phoning one of the illustrious Lords, do please keep your calls to sociable hours - between 6:30pm and 10:00pm, is generally the best time for most people.

Heart of the machine

The CPC is not just a leisure machine. Electronics student Alan Robson has been using his CPC in the fight against heart disease, as TRENTON WEBB finds out...

Alan Robson is in his final year of a degree in Computing Science and Micro-Electronics. He usually works on Newcastle University's mainframe computers – an Amdahl 5860 and an Encore Multimax, but during the winter recess he found himself with a project to start and 250 miles from the nearest link to the university system. So he simply turned to his family's CPC 6128 for quick computing power.

Alan's brief was to design analytical software for ECG (electrocardiograph) monitoring equipment – the machines that go "ping"! Currently, there's a problem in the treatment of certain conditions due to the natural background noise of the body, which interferes with the "wave" read-outs. It was also difficult getting a number of waves to "standstill" so that they could be analyzed comparitatively. The idea was to use the wave correlation to eliminate background noise and help to pinpoint underlying trends. The alternative was relying on mere luck to spot these minute variations being repeated among seemingly endless paper printouts.

The condition in question occurs when patients have an embolism (blockage) or like disorder that causes part of the heart's nervous response system to malfunction or die. This is curable, but without the proper analysis the correct quantities of medication cannot be prescribed. Underdoses are ineffectual, overdoses – obviously – dangerous.

Smoothing over the cracks

Alan's aim was to eliminate interference and to produce a representation of a patient's *average* heart wave. To do this the first wave is drawn on the screen, then the computer overlays the next reading on top and begins to adjust the drawn wave by a process known as correlation and convolution. The principle is that by combining several waves in this way, individual glitches can be smoothed out.

This has the effect of smoothing out the wave, reducing the influence of any non-rhythmic and therefore non-heart sounds. The more information the program receives, the smoother the wave form will become as a more conclusive 'average' is established. Any regular interference, such as that caused by a blockage, is thus more obvious.

Sound/signal information can be either digital or analogue. Digital is preferable as there is none of the customary – and unavoidable – background noise associated with analogue readings. A good comparison is the difference between ordinary records and CDs.

Analogue data is awash with background noise due to its continually variable nature. Digital information, on the other hand, assigns distinct 'discrete' values, (eg 1, 2, or 3.5) to each recorded sound.

Analogue information can be "digitised", however, by rounding the analogue value up or down to 'fit'. This gives the researcher a more concrete foundation on which to build and more precise and understandable results. Needless to say, in such a precise science as ECG monitoring, a firm understanding of the maths involved not only in the qualitisation, but also in assigning the correct correlative values is essential.

Signal processing

Alan's program relies heavily on signal processing, which is essentially turning sounds into reliable computer data. Once digital values have been assigned to the data it can be examined to see if it is a periodic signal (one which is repeated on a regular basis, such as a sine wave) and essentials such as the fundamental (the lowest frequency in a periodic signal) and its harmonics (exact multiples of the funda-

ALAN ROBSON

Alan Robson is in the third and final year of a computer science course at Newcastle University. Sponsored by British Telecom, his particular brief is that of Microelectronics and Software Design. The course he's taken is just one of host of similar courses offered at Newcastle. His first year was spent getting to grips with the delights of PASCAL, while during the second year he had to learn the ins and outs of of even more advanced programming systems. In the third year the course features a project which can be chosen from a list of nearly 60 topics – you can even suggest your own, as long as the lecturer in the relevant department has sufficient expertise in the subject to know if you're fibbing!



As with many university research projects it is unlikely Alan's work will result in new machines or software that will be directly trace to his work. But now the essential first steps have been taken the principle is more than likely be developed further when other students, now in their second year, come to chose their projects.

In this, way a bank of information is built up that will help save time, money – and possibly even lives.

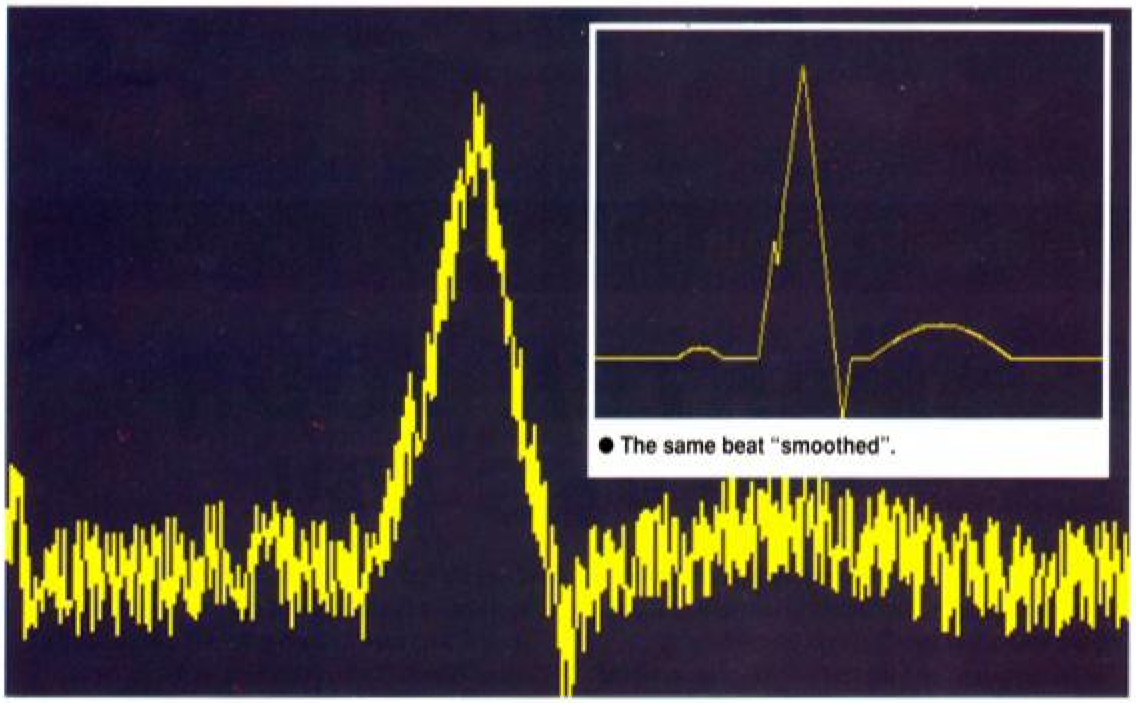


● Newcastle University – home of Alan Robson's heart research project.

mental) can be calculated. These values make it possible to set about displaying them on screen, by using them to calculate X and Y coordinates.

Getting further information and plotting out a single 'period' then requires processes known as Fouric Transfers, which are used to compute the frequency spectrums of sampled signals. These only give 'square' waves, so they must be used with a filter to remove the higher fre quencies. By filtering out certain 'harmonics' it is then possible to produce a 'smooth' wave. For sampled data the filter consists of a string of numbers (coefficients) which are 'convolved' with the signals.

The coefficients and sampled input are convolved by a six-stage process, after which the data is ready to be used. All that is left is the further 'matched filtering' of the mean value (or DC offset). Matched filtering is simply where you wish to detect a signal, know what it looks like but don't when it's going to occur. This is like radar, where certain properties of the wave form are known, and it's the differences from the known wave form that are of interest, but has the benefit of being far more tolerant of random noise.



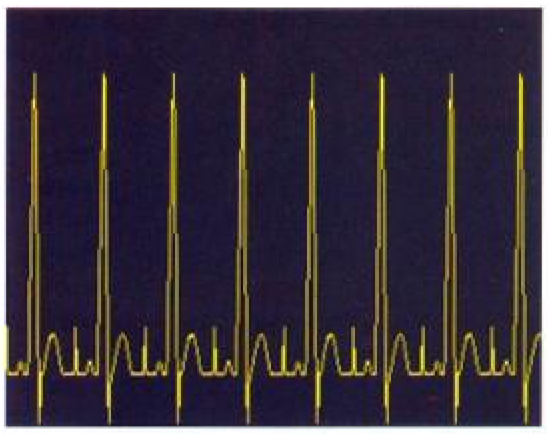
● The same beat "smoothed".

● A single heart beat, showing huge the huge levels of interference faced by researchers.

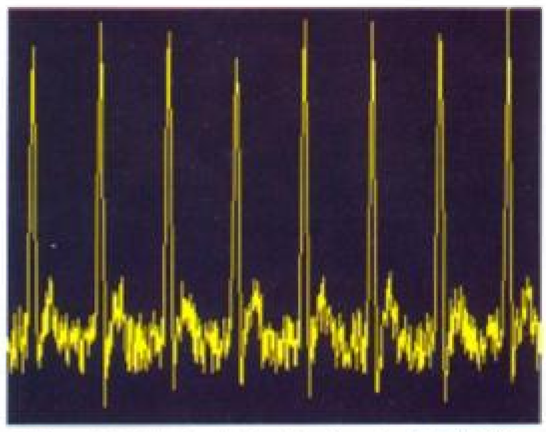
Noise pollution

The other problems faced when dealing with such a topic are varied indeed, but the biggest nightmare is controlling the amount of additional noise that the system picks up when measuring a mechanism like the heart. Logically, if you're trying to find out about every pulse that passes through the heart's muscle then you are destined to accumulate a large amount of peripheral interference. There's noise from the skeletal muscles are receiving similar electrical pulses and even external interference from sources like unsuppressed power cables. These are dealt with using the correlation factor included in the program, where continual assessment and overlaying of the average readings means that all such impulses are eventually ironed out.

It wasn't practical in the CPC stage to use 'freshly taken' ECG readings, so the cardiographs were theoretical examples designed to test the program. All that was required was corrected information, just to make sure the program was behaving correctly. Tests with real – and potentially anomalous – readings would have confused the results.



● A sequence of heart beats after "correlation".



● The original "noisy" signal – almost unintelligible.

BASIC groundwork

The CPC was the ideal tool on which to begin such a project. The 6128's memory proved powerful enough to rough out the program ideas in BASIC and could display the waves forms quickly without the need for special graphics programs – unlike certain PCs Alan could mention.

Its solid grounding in (the often derided) BASIC allowed the program, once it had taken shape, to be transferred to and worked on using the University system. The CPC is naturally unable to match the processing power of many PCs or the University's mainframes, but it played an essential part in the development of the software. It formed an electronic notepad, with which the project was initiated, and was more than powerful enough to establish the framework around which the whole process was later to be built. And even in BASIC, Alan's CPC could handle any of the necessary processes, including all the maths needed to formulate the project.

The fact that the CPC could cope even with third year degree studies, proves what a valuable tool it is for anyone involved in education at any level. The time-saving elements of word processing and the amount of calculating power available make it the ideal choice, especially for students – it's even robust enough to survive the parties!

CRESTS OF A WAVE

The ECG wave that Alan is experimenting with has three distinct parts that occur in one cycle or beat. The P Wave is first, which is produced by the Atria contracting and forcing blood across into the ventricle. The QRS complex follows, as the ventricle contracts, forcing the blood out into the body. As the P wave represents only blood being sent from one side of the heart to the other, so the peak is relatively small. The QRS complex represents the major propulsion for circulation, is the biggest, and can be seen as the large peak on the graph. The final wave – the T wave – is where the heart relaxes getting itself ready for the next cycle.

This is where the software comes in to its own – it's here that the problem can be best identified. As the the wave falls after a peak, any notches in the wave can indicate that part of the heart is malfunctioning, the size of these irregularities an indication to how bad the condition has become.

GLOSSARY OF TERMS

Wave: The graphic representation of the heartbeat. The greater the activity, the higher the peaks on the wave form.

Correlation: The process by which a waveform being analysed is compared to previous ones.

Convolution: A mathematical process by which two related sequences of numbers are bought together.

Periodic Signal: A signal that repeats on a regular basis – e.g. a heartbeat or sine wave.

Fundamental: The lowest frequency in a periodic signal.

Harmonics: A multiple of the fundamental, used in the processing of wave forms.

ECG: Electrocardiograph, the system used to monitor heartbeats. The reading is shown as a moving wave which peaks as the heart beats.

Qualitisation: The rounding up or down of a sampled value to one of a set of discrete values.

Signal Processing: The process by which sound/signals are converted into usable computer data.

Fouric Transfers: The method used to convert the raw data into a visually understandable waves.

TYPE-INS

Professor Waring has a few words to say about presentation this month...

SMARTEN YOUR-SELVES UP!

If the sprites in the latest game in the shops were minute stick men, the backgrounds were made up from letters and numbers and the packaging depicted yellow on blue text-based screens, would you buy it? Probably not – it just wouldn't grab your attention, after all.

That's right – presentation is an area that is very important to the overall appraisal of any program. Although looks don't necessarily affect the way that a program functions, or even add to its usefulness, a pretty program has increased immediate appeal, improved user-friendliness, and the punter is generally a lot happier with it.

When we review entries for the *Type-Ins* pages, our initial reactions – as anyone's would be – are based on the look and feel of a program. Boring screens, fiddly controls and general unfriendliness are black marks against what could be an otherwise excellent *Type-In*. It's important, therefore, that any budding contributors to these pages spend a little time considering how to make the best of their work before popping it in the post.

Forward planning

The best way to improve the presentation of your latest blockbuster is to sit down and plan the layout beforehand. The CPC manuals have text and window planners, so you may as well make use of them to design your screens. Your Amstrad is a colour computer, so don't stick to boring mono displays – a dash of colour makes a world of difference. And user-defined graphics can be used to a good effect. Pretty characters look a lot more attractive then trying to build up pictures from the ASCII set. Lurking inside the plastic casing is a sophisticated three-channel sound chip. It's there too be used, so use it.

Don't overcomplicate a program too much, though. A *Noughts and Crosses* game that requires several 'user-friendly' menus and pretty screens that take minutes to draw up before allowing you to make a move is more off-putting than a crude display. Similarly, don't let improved presentation make a program too long, either. Anything over 6K is getting larger than we can put on one page, and it's borderline whether we'll accept it. We aim to get as many good quality programs as possible in the space available.

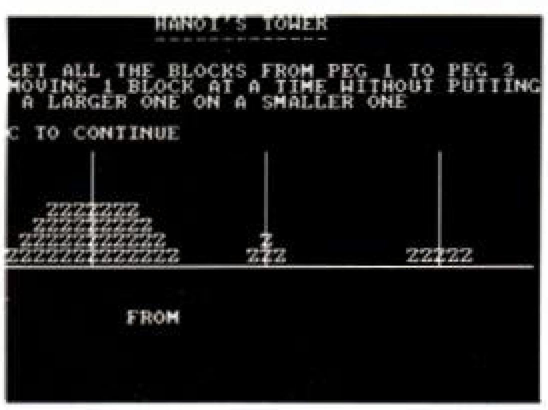
The message to all our readers is, keep 'em short and sweet.

Practice what we preach

And just to give a few specific pointers, this month we're going to take a close look at a *Type-In* from Andrew Smith and Mathew Robbins of Solihull, West Midlands. *Hanoi's Tower* is a perfect example of a good program that is marred by poor presentation. (Sorry lads!)

Hanoi's Tower

The program is a version of the game *Hanoi's Tower* – a simple mathematical puzzle that consists of three pegs and seven differently sized disks. The aim is to move all seven disks from peg one to peg three, without putting a larger disk on top of a smaller one. The mechanics of the program were fine, processing all the necesary logical steps in order to execute the game correctly. However, the program's poor presentation lets it down badly.



● The original *Hanoi's Tower* from Messrs Smith and Robbins...

We made a few changes to the listing. The basic structure is exactly the same; all we've altered are the parts that are concerned with the program's appearance.

Type in the listing as it stands, and run the program. After you've played with it for a few minutes, re-type the lines we've altered. This is what we did:

There wasn't any use of colour in the program. We added some different PENs and re-defined the ink colours.

● We made slight improvements to the front end of the game. The original waited for capital 'C' to be pressed before starting. This was a nuisance. We eliminated it as there was no need.

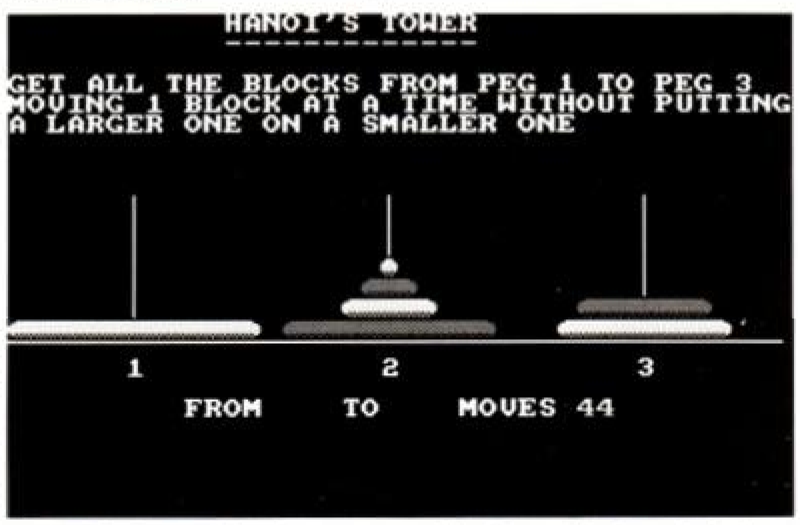
● The graphical display wasn't terribly inspiring. There was obvious room for improvement in the rings, which were made up from the letter 'Z'. We defined a few of our own characters using the SYMBOL command – see line 25.

● The program has no sound whatsoever. We included a couple of rudimentry spot effects.

● There was no real impetus to finishing the game. We added a counter so that there is some objective – i.e. beating the number of moves.

Anyway, here's the original listing, followed by our amendments:

```
{JpBt} 10·REM·THE·TOWER·OF·HANOI·BY·ANDREW·SMITH·AN
       D·MATTHEW·ROBBINS
{IoBr} 20·DIM·z$(8),a$(8),b$(8),c$(8),a(8),b(8),c(8
       )
{KnBv} 30·CLS:PRINT"···········HANOI'S·TOWER·······
       ······················-------------":PRINT·
{EsEq} 40·PRINT"GET·ALL·THE·BLOCKS·FROM·PEG·1·TO·PE
       G·3··MOVING·1·BLOCK·AT·A·TIME·WITHOUT·
       PUTTING·A·LARGER·ONE·ON·A·SMALLER·ONE":
       PRINT:PRINT"C·TO·CONTINUE"
{PxBn} 50·IF·INKEY$="C"THEN·GOTO·60·ELSE·GOTO·50
{KsAq} 60·PLOT·1,140:DRAW·630,140
{AxBi} 70·FOR·z=1·TO·8:READ·z$(z):NEXT·z
{PpBo} 80·LET·g=1:LET·h=8:LET·r=8:LET·j=1:LET·k=8:L
       ET·s=8
{FsCk} 90·FOR·z=1·TO·7:LET·a$(z)=z$(z+1):LET·b$(z)=
       z$(1):LET·c$(z)=z$(1):NEXT·z
{LoBt} 100·FOR·z=1·TO·7:LET·a(z)=z:LET·b(z)=0:LET·c
       (z)=0:NEXT·z
{DtBn} 110·LET·a(8)=8:LET·b(8)=8:LET·c(8)=8:GOTO·24
       0
```



● ...and the improved version, courtesy of the *Amstrad Action* technical services dept.

```
{OxAv} 120·LOCATE·10,20:PRINT"FROM"
{HqBs} 130·e$=INKEY$:IF·e$<"4"AND·e$>"0"THEN·140·EL
       SE·130
{DtAv} 140·LOCATE·10,20:PRINT"TO··"
{ElBn} 150·f$=INKEY$:IF·f$<"4"AND·f$>"0"THEN·160·EL
```

```
         SE·150
{HiAu} 160·LOCATE·10,20:PRINT"····"
{KlEi} 170·IF·e$="1"AND·f$="2"AND·h>g·THEN·LET·b$(k
         -1)=a$(j):LET·a$(j)=z$(1):LET·k=k-
         1:LET·j=j+1:LET·h=g:LET·b(k)=g:LET·g=a
         (j):GOTO·240
{FqEm} 180·IF·e$="1"AND·f$="3"AND·r>g·THEN·LET·c$(s
         -1)=a$(j):LET·a$(j)=z$(1):LET·s=s-
         1:LET·j=j+1:LET·r=g:LET·c(s)=g:LET·g=a
         (j):GOTO·240
{MuDv} 190·IF·e$="2"AND·f$="1"AND·g>h·THEN·LET·a$(j
         -1)=b$(k):LET·b$(k)=z$(1):LET·j=j
         1:LET·k=k+1:LET·g=h:LET·a(j)=h:LET·h=b
         (k):GOTO·240
{BlEj} 200·IF·e$="2"AND·f$="3"AND·r>h·THEN·LET·c$(s
         -1)=b$(k):LET·b$(k)=z$(1):LET·s=s-
         1:LET·k=k+1:LET·r=h:LET·c(s)=h:LET·h=b
         (k):GOTO·240
{KvDx} 210·IF·e$="3"AND·f$="1"AND·g>r·THEN·LET·a$(j
         -1)=c$(s):LET·c$(s)=z$(1):LET·j=j-
         1:LET·s=s+1:LET·g=r:LET·a(j)=r:LET·r=c
         (s):GOTO·240
{NiEi} 220·IF·e$="3"AND·f$="2"AND·h>r·THEN·LET·b$(k
         -1)=c$(s):LET·c$(s)=z$(1):LET·k=k-
         1:LET·s=s+1:LET·h=r:LET·b(k)=r:LET·r=c
         (s):GOTO·240
{EwAn} 230·GOTO·120
{BmFw} 240·FOR·z=10·TO·17:LOCATE·1,z:PRINT·a$(z-
         9):LOCATE·14,z:PRINT·b$(z-
         9):LOCATE·27,z:PRINT·c$(z-
         9):NEXT·z:PLOT·102,143:DRAW·102,260:
         PLOT·310,143:DRAW·310,260:PLOT·518,
         143:DRAW·518,260
{BkCo} 250·IF·c(1)=1·THEN·LOCATE·15,25:PRINT"WELL·D
         ONE!!!":GOTO·250·ELSE·GOTO·120
{BuCv} 260·DATA·"·············","······Z······","··
         ···ZZZ·····","····ZZZZZ····","···
         ZZZZZZZ···","··ZZZZZZZZZ··","·ZZZZ
         ZZZZZZZ·","ZZZZZZZZZZZZZ"······
```

THE CHANGES...

```
{FsBn} 15·DEF·FNcol(x,x$)=-1*(x$<>z$(1))*((x/2-
         INT(x/2))*2+1)+1
{FkGo} 25·SYMBOL·AFTER·91:SYMBOL·91,0,31,127,255,2
         55,255,106,21:SYMBOL·92,0,255,255,255,
         255,255,170,85:SYMBOL·93,0,240,252,254
         ,254,254,172,80:SYMBOL·94,0,56,124,254,
         254,254,124-40,56-16:SYMBOL·95,16,16,
         16,16,16,16,16,16
{LjDt} 30·MODE·1:BORDER·0:INK·0,0:INK·1,26:INK·2,6:
         INK·3,22:PRINT·TAB(12):"HANOI'S·TOWER"
         :PRINT·TAB(12):"-------------":PRINT
{GkDr} 40·PRINT"GET·ALL·THE·BLOCKS·FROM·PEG·1·TO·PE
         G·3··MOVING·1·BLOCK·AT·A·TIME·WITHOUT·
         PUTTINGA·LARGER·ONE·ON·A·SMALLER·ONE"
{CkBn} 50·LOCATE·7,18:PRINT"1"TAB(20)"2"TAB(33)"3"
{CpAl} 85·mv=0
{FqBr} 120·LOCATE·10,20:PEN·1:PRINT"FROM····TO····M
         OVES"
{KnBp} 140·LOCATE·15,20:PEN·2:PRINT·E$:SOUND·1,200,
         10,10
{HuBq} 160·LOCATE·21,20:PEN·2:PRINT·F$:SOUND·2,1000
         ,10,10
{IoFj} 240·FOR·z=10·TO·17:y=z-
         9:LOCATE·1,z:PEN·FNcol(a(y),a$(y)):
         PRINT·a$(y):LOCATE·14,z:PEN·FNcol(b
         (y),b$(y)):PRINT·b$(y):LOCATE·27,z:
         PEN·FNcol(c(y),c$(y)):PRINT·c$(y):
         NEXT·z
{JkBl} 245·mv=mv+1:LOCATE·29,20:PEN·3:PRINT·mv
{HtCr} 260·DATA·"······_······","······^
         ······","·····[\]·····","····[\\\]····
         ","···[\\\\\]···","··[\\\\\\\]··","·
         [\\\\\\\\\\\]·","[\\\\\\\\\\\\\]"
```

COVER-UP

A version of *Type-Writer* was included on the christmas cover cassette. Unfortunately, an error crept in, and the program won't run successfully on 464. If you have been experiencing problems with *Type-Writer* on the 464, then you'll be glad to hear that the remedy is fairly simple. Change the references to c$ in line 40 and 110 to read h$, and all will be well again.

GOING DOTTY

***Type-Writer* is so accurate that in can even distinguish the number of spaces in each line. This means that any trailing spaces at the end of a line will be detected by *Type-Writer* and produce a different code than a line without the extra spaces. Although this doesn't affect whether a program works or not, getting the right number of spaces is essential if the right checksum code is to be produced. For this reason we have replaced the spaces with dots to make the listings even more foolproof.**

Spelling test

Warning: 6128 only!

Continuing the Educational theme in *AA* this month, we have a spelling test program from Steve Oldfield of Sheffield. Four ways of spelling a word are printed. You must select the correct one and type it in. There are ten words at present, but more can be added from line 370 onwards.

TYPE-WRITER

Don't type in that strange four letter code at the beginning of each line in *Type-Ins*! They are special checksum codes designed to make your life easier. All you need is this short *Type-Writer* listing, which produces those magical codes for you.

The program works by producing a code based on all the characters in a line of BASIC. This code is printed every time the computer encounters a 'Return'. After you have RUN *Type-Writer* the computer will produce these checksums indefinitely. *Type-Writer* doesn't need to be retained in memory. In fact, it is always wise to get rid of it with 'NEW' before you start to enter the listing – you don't want it to become part of the program you're typing in! Compare the codes with those printed in the magazine (yours will appear at the end of each line, but we put them at the start for clarity).

If they are the same then all is well, and you'll be able to sleep at nights. If they're different, then what you've typed is not the same as we've printed, and your typing is at fault.

When you get these conflicting checksums, don't panic! EDIT the line and check it for differences. Remember that *Type-Writer* is very sensitive and can detect swapped characters and embeded spaces in lines. Also take note of similar-looking characters. The letter 'l' can look deceptively like the number '1' in listings. When you find your typo then ammend the line to read like the one printed. *Type-Writer* will now give a correct report.

Type in the following listing and save it. If you get a data error when you run the program then check out lines 200-310. Once everything is hunky-dory and it seems to run OK then you can put it to its first real test. List the program. After every line of the listing a checksum should appear, and it should be identical to those that appear in these pages.

```
{LxAn} 10·'Type-Writer
{NkBj} 20·'Public·Domain,·by·Pat·McDonald
{BqAw} 30·'Amstrad·Action·June·1989
{HiBp} 40·flag=0:PRINT:INPUT"Am·I·a·464·(Daft·
         question!)";h$
{IsBj} 50·a=HIMEM-93:MEMORY·a-1:RESTORE·200
{PjAr} 60·FOR·b=a·TO·a+&5D
{ArAv} 70·READ·c$:d=VAL("&"+c$)
{AsAr} 80·POKE·b,d:e=e+d
{IqAl} 90·NEXT·b
{JmBu} 100·IF·e<>10566·THEN·PRINT"Error·in·data.
         ·Please·Check.":END
{KuBs} 110·IF·LEFT$(h$,1)="y"OR·LEFT$(h$,1)="Y"THEN
         ·POKE·a+8,&A4
{AkAo} 120·z=a+34:e=0
{AlAs} 130·f=ABS(INT(z/256))
{DwAq} 140·g=ABS(((z/256)-f)*256)
{NqAx} 150·POKE·a+40,g:POKE·a+41,f:POKE·a+45,g
{CtBm} 160·POKE·a+46,f:POKE·a+57,g:POKE·a+58,f
{NkBi} 170·POKE·a+65,g:POKE·a+66,f:POKE·a+77,g
{LxAx} 180·POKE·a+78,f:POKE·a+85,g:POKE·a+86,f
{FiAu} 190·POKE·a+90,g:POKE·a+91,f
{JmAv} 200·DATA·e5,c5,f5,fe,0d,20,18,21
{NpBi} 210·DATA·8a,ac,01,00,06,51,59,7e
{ClAw} 220·DATA·fe,00,28,11,47,81,10,fd
{ErAv} 230·DATA·4f,eb,09,eb,23,18,f0,f1
{PrAv} 240·DATA·c1,e1,cf,fe,93,3e,20,cd
{GvAx} 250·DATA·22,90,3e,7b,cd,22,90,7b
{KvAt} 260·DATA·07,07,07,07,e6,0f,c6,41
{CxAv} 270·DATA·cd,22,90,7b,e6,0f,c6,69
{ExAv} 280·DATA·cd,22,90,7a,07,07,07,07
{KvAu} 290·DATA·e6,0f,c6,41,cd,22,90,7a
{IpAv} 300·DATA·e6,0f,c6,69,cd,22,90,3e
{JrBj} 310·DATA·7d,cd,22,90,18,c1,4d,61
{NuAl} 320·g=g-34
{GkBm} 330·IF·flag=0·THEN·flag=1·ELSE·GOTO·370
{DvBo} 340·POKE·a+35,PEEK(&BB5B):POKE·a+36,PEEK(&BB
         5C)
{CsBo} 350·POKE·&BB5A,&C3:POKE·&BB5B,g:POKE·
         &BB5C,f
{FwAm} 360·GOTO·50
{DpBp} 370·POKE·a+35,PEEK(&BD2C):POKE·a+36,PEEK
         (&BD2D)
{IqBn} 380·POKE·&BD2B,&C3:POKE·&BD2C,g:POKE·
         &BD2D,f
```

```
{GnBq} 10·REM·SPELLING·TESTER·(c)·STEVE·OLDFIELD·JA
       NUARY·1990
{FiAv} 15·REM·SET·UP·WINDOWS·AND·INKS
{IkBk} 20·MODE·1:BORDER·1:INK·1,26:INK·3,6
{GmDm} 30·WINDOW#1,1,39,1,4:WINDOW#2,1,39,5,16.
       WINDOW#3,33,36,22,23:WINDOW#4,31,39,17,
       25:WINDOW#5,3,20,40,30
{MuBv} 40·PAPER#1,3:CLS#1:PEN·1:PRINT#1,SPACE$(90);
       "SPELLING·TESTER"
{PtFv} 50·PRINT#2,SPACE$(40);"YOU·WILL·BE·SHOWN·4·
       DIFFERENT·WAYS·OF·SPELLING·A··PARTICULAR
       ·WORD.·YOU·MUST·TRY·TO·FIND·THE·CORRECT·
       ONE":PRINT#5,"<·PRESS·A·KEY·>":CALL·
       &BB18:CLS#2:CLS#5
{FnAm} 60·GOSUB·730
{JrAt} 70·REM·SET·UP·VARIABLES
{IsAw} 80·LET·x=10:r=0:w=0:FOR·q=1·TO·x
{PqBk} 90·READ·a$:LOCATE·2,9:PRINT·a$:READ·b$
{CuBx} 100·LOCATE·6,12:INPUT"YOUR·SPELLING···",
       answ$:Z$=UPPER$(answ$)
{JrAt} 105·REM·RIGHT·ANSWER
{OoBj} 110·IF·b$=z$THEN·LET·r=r+1·ELSE·140
{FrBi} 120·SOUND·1,50,20,12:GOSUB·810
{ElDl} 130·LOCATE·8,16:PRINT"YOU·ARE·RIGHT":PRINT#5
       ,"<·PRESS·A·KEY·>":CALL·&BB18:CLS#2:
       CLS#3:CLS#5:GOTO·170
{NuAo} 140·REM·WRONG·ANSWER
{OpBs} 150·IF·b$<>z$THEN·LET·w=w+1:SOUND·1,2500,75,
       15,1:GOSUB·830
{BpDq} 160·LOCATE·2,15:PRINT"WRONG·THE·CORRECT·
       SPELLING·IS·";b$:PRINT#5,"<·PRESS·A·
       KEY·>":CALL·&BB18:CLS#2:CLS#3:CLS#5
{JvAl} 170·NEXT·q
{OuBo} 180·LOCATE·6,10:PRINT"YOU·SCORED·";r;"OUT·OF
       ·10"
{IrBk} 190·IF·r=x·THEN·GOSUB·820:GOSUB·870
{FnBp} 200·IF·r>w·AND·r<x·THEN·GOSUB·810:GOSUB·860
{AjBl} 210·IF·r=w·THEN·GOSUB·810:GOSUB·860
{GnBm} 220·IF·r<w·THEN·GOSUB·830:GOSUB·850
{HqBp} 230·PRINT#5,"<·PRESS·A·KEY·>":CALL·&BB18:CLS
       #2
{JsAl} 240·GOTO·680
{EuAm} 250·REM·DATA
{JxBt} 260·DATA·"TEACHER··TEECHER··TEACHERR·
       TEECHERR","TEACHER"
{NrBv} 270·DATA·"INPRUVE··IMPROOVE··IMPROVE··
       IMPROOV","IMPROVE"
{JtBo} 280·DATA·"FREND··FRIEND··FREIND··FRENND",
       "FRIEND"
{GmBp} 290·DATA·"SCHOOOL··SCHOOL··SKOOL··SCHOOLL","
       SCHOOL"
{MlBs} 300·DATA·"CASSETTE··CASETTE··CASSETE··
       CASETE","CASSETTE"
{LnBv} 310·DATA·"DOLFIN··DOLFHIN··DOLPHINN··
       DOLPHIN","DOLPHIN"
{GuBr} 320·DATA·"ENGINE··ENJINE··ENGINNE··ENJINNE",
       "ENGINE"
{IvBs} 330·DATA"COMPUTOR·COMPEWTER·COMPUTER·
       COMMPUTER","COMPUTER"
{PvBt} 340·DATA·"TOYLET··TOILLET··TOILLETT··
       TOILET","TOILET"
{GqBs} 350·DATA·"SPIDER··SPYDER··SPIDDER··
       SPYDERR","SPIDER"
{LqBs} 360·DATA·"STOMACK··STUMACH··STOMACH··
       STUMACK","STOMACH"
{DiAw} 370·REM·ADD·MORE·DATA·AS·NEEDED
{KqBj} 380·REM·LEAVE·SPACE·FOR·EXTRA·DATA·LINES
{BoBs} 680·CLS#5:PRINT#2:LOCATE·4,16:INPUT"PLAY·
       AGAIN·(Y·OR·N·)",g$
{JxBp} 690·IF·g$="Y"OR·g$="y"THEN·CLS#2:GOTO·80·
       ELSE·700
{LpBr} 700·IF·g$="n"OR·g$="N"THEN·CLS#2:GOTO·710·
       ELSE·680
{BnBx} 710·LOCATE·15,15:PRINT"GOODBYE":t=TIME:WHILE
       ·TIME<t+800:WEND:CALL·0
{MoAq} 720·REM·SUBROUTINES
{JkAp} 730·REM·face·set·up
{LnDv} 740·GRAPHICS·PEN·2:INK·2,25:ORIGIN·550,75:
       DEG:MOVE·0,60:FOR·d=0·TO·360·STEP·20:
       DRAW·60*SIN(d),60*COS(d):NEXT:MOVE·20,
       20:FILL·2
{PtAp} 750·REM·left·eye
{IoCt} 760·GRAPHICS·PEN·4:INK·4,0:FOR·a=1·TO·360·
       STEP·12:DEG:ORIGIN·525,95:PLOT·
       10*COS(a),10*SIN(a):NEXT
{MkDx} 765·FOR·a=1·TO·360·STEP·12:DEG:ORIGIN·527,
       97:DRAW·5*COS(a),5*SIN(a):NEXT:FOR·
       a=1·TO·150·STEP·12:DEG:ORIGIN·530,105:
       PLOT·10*COS(a),10*SIN(a):NEXT
{HtAo} 770·REM·right·eye
{AxCj} 780·FOR·a=1·TO·360·STEP·12:DEG:ORIGIN·575,
       95:PLOT·10*COS(a),10*SIN(a):NEXT
{CqEl} 785·FOR·a=1·TO·360·STEP·12:DEG:ORIGIN·577,
       97:DRAW·5*COS(a),5*SIN(a):NEXT:FOR·a=
       1·TO·150·STEP·12:DEG:ORIGIN·580,105:
       PLOT·10*COS(a),10*SIN(a):NEXT
{CqAn} 790·REM·nose····
{CnCu} 800·GRAPHICS·PEN·3:FOR·a=1·TO·360·STEP·12:
       DEG:ORIGIN·550,75:DRAW·15*COS(a),
       15*SIN(a):NEXT:RETURN
{JkAq} 810·REM·happy·mouth
{GuDo} 820·PAPER#3,2:CLS#3:GRAPHICS·PEN·4:FOR·a=180
       ·TO·360·STEP·10:DEG:ORIGIN·548,57:
       PLOT·25*COS(a),25*SIN(a):NEXT:RETURN
{JnAp} 830·REM·SAD·MOUTH
{EqDo} 840·PAPER#3,2:CLS#3:GRAPHICS·PEN·4:FOR·
       a=1·TO·180·STEP·10:DEG:ORIGIN·548,35:
       PLOT·25*COS(a),25*SIN(a):NEXT:RETURN
{ArDj} 850·LOCATE·8,13:PRINT"·OH·DEAR·YOU·WILL·HAVE
       ·TO·TRY·HARDER":PRINT·SPACE$(45);"NEXT·
       TIME":GOSUB·5000:RETURN
{LjDi} 860·LOCATE·8,13:PRINT"·YOU·DID·VERY·WELL·YOU
       ·MIGHT·GET·THEM·····ALL·RIGHT·NEXT·
       TIME":GOSUB·5000:RETURN
{EvEr} 870·GRAPHICS·PEN·4:FOR·a=180·TO·360·STEP·10:
       DEG:ORIGIN·548,57:PLOT·25*COS(a),25*SIN
       (a):NEXT:LOCATE·6,13:PRINT"YOU·GOT·THEM·
       ALL·RIGHT·WELL·DONE":RETURN
{DoEs} 880·GRAPHICS·PEN·4:FOR·a=180·TO·360·STEP·10:
       DEG:ORIGIN·548,57:PLOT·25*COS(a),25*SIN
       (a):NEXT:LOCATE·6,13:PRINT"YOU·GOT·THEM·
       ALL·RIGHT·WELL·DONE":RETURN
{HmAr} 5000·REM·*****·Tune·*****
{JjBi} 5010·IF·g<2·THEN·RESTORE·5100
{EoBl} 5020·IF·g=2·OR·g=3·THEN·RESTORE·5150
{AwBl} 5030·IF·g=4·OR·g=5·THEN·RESTORE·5200
{ApBk} 5040·IF·g=6·THEN·RESTORE·5250
{EoAx} 5050·IF·g=7·THEN·RESTORE·5300
{LxBi} 5060·IF·g=8·THEN·RESTORE·5350
{EvAq} 5070·FOR·x=1·TO·48
{FsCp} 5080·READ·a,b,c:SOUND·4,a,18,10,9,1:SOUND·9,
        b,20,12,4,0:SOUND·5,c,25,12,5,7:NEXT
{CqAk} 5090·:
{JuAx} 5100·DATA·379,0,0,·338,0,0,·301,0,0
{LsAu} 5110·DATA·284,113,95,·284,113,95
{FvAx} 5120·DATA·379,113,95,·379,113,95
{AxAp} 5130·DATA·284,113,95
{EjAk} 5140·:
{AoAx} 5150·DATA·284,0,0,·253,0,0,·225,0,0
{ItAw} 5160·DATA·213,106,84,·213,106,84
{AuAw} 5170·DATA·284,106,84,·284,106,84
{LvAq} 5180·DATA·213,106,84
{ImAj} 5190·:
{IvBi} 5200·DATA·213,0,0,·190,0,0,·169,0,0
{EoBi} 5210·DATA·159,106,80,·159,106,80
{PrAx} 5220·DATA·213,106,80,·213,106,80
{GlAr} 5230·DATA·159,106,80
{OxAk} 5240·:
{LxBi} 5250·DATA·159,0,0,·169,0,0,·190,0,0
{OnAx} 5260·DATA·213,106,84,·213,106,84
{LuAv} 5270·DATA·284,106,84,·284,106,84
{MlAr} 5280·DATA·213,106,84
{OiAj} 5290·:
{GkAx} 5300·DATA·213,0,0,·225,0,0,·253,0,0
{BkAv} 5310·DATA·284,113,95,·284,113,95
{GjAw} 5320·DATA·379,113,95,·379,113,95
{LxAq} 5330·DATA·284,113,95
{JvAk} 5340·:
{MnAx} 5350·DATA·284,0,0,·301,0,0,·338,0,0
{IjBi} 5360·DATA·379,150,127,·379,150,127
{MoBj} 5370·DATA·253,150,127,·253,150,127
{MiAs} 5380·DATA·379,150,127
{MsAn} 5390·RETURN
```

Sprite Driver

Sean McManus of Stevenage, Herts., has come up with a program in response to recent pleas within the pages of *AA*. His *Sprite Driver* program is just the thing to liven up your BASIC games.

The sprites are full colour XORed sprites (print the same again to delete the original), and are limited to using text co-ordinates. The sprites are referred to as numbers from zero to 126. They must first be created. Use any art package, programming language or sprite definer as long as they can be put up onto the screen from BASIC.

The GRAB command can be used to lift the graphic from the screen and store it for use with the sprites. The information it needs is X co-ordinate, Y co-ordinate, Width in bytes, Height in pixels and address in memory to store it.

```
|GRAB,x,y,w,h,a
```

The sprites are defined with SDEF. It links each Sprite number with the Address it's been grabbed to.

```
|SDEF,s,a
```

To print a sprite onto the screen the SPRITE command is used. Just tell it the Sprite number and the X and Y co-ordinates to position it to.

```
|SPRITE,s,x,y
```

X and Y co-ordinates start at the top left of the screen (0,0) and extend to the bottom right (79,24).

The program launches straight into a demonstration. You can save the RSXs as a block of code with SAVE "code",b,40000,272. Reload it with:

```
MEMORY 39999:LOAD"code":call 40000.

{FjAw} 10·'·ESD·-·EASI-SPRITE·DRIVER
{KpAs} 20·'·(C)·1989·SEAN·MCMANUS
{PlAu} 30·'·WRITTEN·FOR·AMSTRAD·ACTION
{MpAp} 40·'·PUBLIC·DOMAIN
{HuAi} 50·'
{JiBv} 60·MODE·2:PEN·1:PAPER·0:PRINT"Loading·
        machine·code·into·40000."
{MwAv} 70·INK·0,0:INK·1,26:BORDER·0
{KjBj} 80·PRINT:PRINT"Easi-Sprite·Driver"
{OsAv} 90·PRINT:PRINT"New·commands:"
{DwCj} 100·PRINT"|SDEF,sprite·number,memory·address
        ·-·Define·a·sprite·address
{LmBp} 110·PRINT·"|SPRITE,sprite,x,y·-
        ·Print·sprite
{CwAm} 120·PRINT
{PwAo} 130·PRINT·"Notes:
{KvBx} 140·PRINT·"Co-ordinates·used·are·text·
        co-ordinates·minus·one."
{DxAx} 150·PRINT·"I.e.·(0-19,0-24)·in·mode·0
{GoAx} 160·PRINT·"·····(0-39,0-24)·in·mode·1
{MxBi} 170·PRINT·"·····(0-79,0-24)·in·mode·2"
{JsAl} 180·PRINT
{HtBi} 190·PRINT·"Do·not·exceed·126·sprites."
{IwCi} 200·PRINT·"Code·is·not·very·error·trapped·to
        ·keep·code·length·to·a"
{EjBx} 210·PRINT·"minimum.··Use·caution.··Do·not·
        print·undefined·sprites,·or"
{AjBm} 220·PRINT·"sprites·with·a·dimension·of·zero.
        "

{JmBj} 230·DATA·01,4F,9C,21,6A,9C,CD,D1,3B1
{JkBm} 240·DATA·BC,21,E6,9C,C3,D2,9C,5B,4EB
{KrAv} 250·DATA·9C,C3,70,9C,C3,B2,9C,C3,53F
{MnBk} 260·DATA·17,9D,C9,53,50,52,49,54,30F
{MqBl} 270·DATA·C5,53,44,45,C6,47,52,41,341
{FjBj} 280·DATA·C2,00,FC,A6,4F,9C,00,00,34F
{JqAx} 290·DATA·FE,03,C2,CC,9C,DD,6E,00,476
{OwBj} 300·DATA·DD,66,02,DD,7E,04,F5,CD,466
{FqBl} 310·DATA·1A,BC,F1,E5,6F,26,00,29,36A
{BwAx} 320·DATA·01,4F,9D,09,4E,23,46,50,1FD
{KsBj} 330·DATA·59,69,60,4E,23,13,13,46,1FF
{IrBk} 340·DATA·E1,C5,E5,1A,AE,77,23,13,400
{MqBi} 350·DATA·10,F9,E1,01,00,08,09,30,22C
{HjBi} 360·DATA·04,01,50,C0,09,C1,0D,20,20C
{DoAx} 370·DATA·E8,C9,FE,02,C2,CC,9C,DD,5B8
{AqBk} 380·DATA·7E,02,87,21,4F,9D,4F,06,269
{GsBi} 390·DATA·00,09,DD,5E,00,DD,56,01,278
{EoBk} 400·DATA·73,23,72,C9,21,DD,9C,C3,42E
{EsAx} 410·DATA·D2,9C,7E,FE,00,C8,CD,5A,4D9
{AoBj} 420·DATA·BB,23,C3,D2,9C,18,45,52,3BE
{BoAv} 430·DATA·52,4F,52,18,07,00,45,41,198
{AwBl} 440·DATA·53,59,20,53,50,52,49,54,25E
{FuBn} 450·DATA·45,20,44,52,49,56,45,52,231
{NtBi} 460·DATA·2E,0A,0A,0D,28,43,29,20,103
{ErBj} 470·DATA·31,39,38,39,20,53,45,41,1D4
{MtBk} 480·DATA·4E,20,4D,43,4D,41,4E,55,22F
{KvBk} 490·DATA·53,2E,07,0A,0A,0D,00,FE,1A7
{KjBj} 500·DATA·05,C2,CC,9C,DD,6E,06,DD,45D
{JqBk} 510·DATA·66,08,CD,1A,BC,DD,56,01,345
{KjAx} 520·DATA·DD,5E,00,DD,7E,02,12,4F,2F9
{BoBk} 530·DATA·13,DD,7E,04,12,13,47,C5,2A3
{DoBj} 540·DATA·E5,7E,12,23,13,10,FA,E1,396
{AxBi} 550·DATA·01,00,08,09,30,04,01,50,097
{AsBi} 560·DATA·C0,09,C1,0D,20,E9,C9,00,369
{EjAx} 570·a=&9C40:L=230:FOR·z=1·TO·34
{JiBs} 580·cs=0:FOR·x=1·TO·8:READ·v$:v=VAL("&"+v$):
        POKE·a,v
{OuBl} 590·cs=cs+v:a=a+1:NEXT:READ·c$:c=VAL("&"+c$)
{GlBr} 600·IF·c<>cs·THEN·PRINT"DATA·ERROR·IN·LINE·"
        ,L:END
{GiAq} 610·L=L+10:NEXT
{BpAp} 620·CALL·40000
{HkAj} 630·'
{LwAp} 640·'·Demonstration
{IiAj} 650·'·
{AlBj} 660·DATA·10,08,00,54,FC,FC,FC,FC,45C
{PpAw} 670·DATA·40,00,00,A8,00,00,00,00,0E8
{HuBi} 680·DATA·E8,00,54,10,30,30,30,30,20C
{NiAw} 690·DATA·C0,80,A8,74,54,54,54,54,3AC
{LrBi} 700·DATA·60,00,B8,A8,74,10,54,20,2B8
{MkBj} 710·DATA·E8,A8,FC,20,FC,00,54,A8,4A4
{KrBj} 720·DATA·54,A8,FC,20,30,00,10,20,278
{IjAx} 730·DATA·54,A8,FC,20,00,00,00,00,218
{OtAx} 740·DATA·54,A8,FC,00,00,00,00,00,1F8
{KlBi} 750·DATA·54,A8,FC,00,00,00,00,00,1F8
{CrBj} 760·DATA·54,A8,FC,20,20,20,20,20,298
{JrAx} 770·DATA·74,A8,A8,A8,B8,A8,B8,A8,52C
{OuAx} 780·DATA·A8,A8,B8,B8,54,A8,FC,10,4C8
{EqAx} 790·DATA·A8,A8,54,74,74,B8,FC,74,4B4
{AxBj} 800·DATA·74,00,00,B8,10,10,20,00,16C
{FuBj} 810·DATA·A8,00,00,54,FC,FC,FC,FC,4EC
{EpAv} 820·a=&8000:L=·660:FOR·G=1·TO·16
{CwBs} 830·cs=0:FOR·x=1·TO·8:READ·v$:v=VAL("&"+v$):
        POKE·a,v
{BvBn} 840·cs=cs+v:a=a+1:NEXT:READ·c$:c=VAL("&"+c$)
{FkBs} 850·IF·c<>cs·THEN·PRINT"DATA·ERROR·IN·LINE·"
        ,L:END
{LjAp} 860·L=L+10:NEXT
{HwAo} 870·INK·7,25:INK·4,13
{IjAr} 880·MODE·0:|SDEF,1,&8000
{KrAq} 890·PEN·1:PAPER·0
{JxBm} 900·LOCATE·3,1:PRINT"ESD·Demonstration"
{MxAu} 910·LOCATE·7,2:PRINT"(Batman)
{NrAr} 920·FOR·n=23·TO·5·STEP·-2
{JlBj} 930·FOR·x=0·TO·19·STEP·2:|SPRITE,1,x,0
{BxAo} 940·FOR·y=1·TO·n
{AkBj} 950·|SPRITE,1,x,y:|SPRITE,1,x,y-1
{NvAm} 960·NEXT·y,x,n
{EmAq} 970·WHILE·INKEY$=""
{PsBr} 980·|SPRITE,1,(INT(RND*10)*2),(INT(RND*10)
        *2)+3
{HuAk} 990·WEND
{CmAo} 1000·MODE·2:LIST
```

MEMDUMP

Mike Wong from Sale in Cheshire has been up to has old tricks again. His latest listing, *Memdump* can give you a graphical display of the computer's memory at the touch of a button (well, eight buttons, actually).

The program asks for an address to locate the routine. It defaults to &4000, but other good places are &A500 (below disk drive space) or &AF00 (where it will survive a system reset – just type CALL &AF03 to restore it).

Execute the program with the RSX |MEMDUMP. Each byte in memory is represented by a pixel. Programs tend to be shown as solid bands, whilst data has a more 'patchy' look.

```
{CpBi} 10·MODE·2:INPUT"Locate·at·(&4000+)":a
{EtAu} 20·IF·a<0·THEN·a=65536+a
{NrAr} 30·IF·a=0·THEN·a=&4000
{PkAs} 40·IF·a<&4000·THEN·10
{IpAx} 50·IF·a<HIMEM·THEN·MEMORY·a-1
{FsAt} 60·PRINT"Please·wait...":l=160
{CwBo} 70·FOR·n=a·TO·a+&152·STEP·20:FOR·p=0·TO·19
{GvBl} 80·READ·q$:q=VAL("&"+q$):POKE·n+p,q:c=c+q
{BsBo} 90·NEXT:READ·c$:ch=VAL("&"+c$):IF·c<>
        ch·THEN·150
{JtBo}
100·l=l+10:c=0:NEXT:FOR·n=1·TO·23:READ·p$,q$
{JoBl}
110·p=VAL("&"+p$):q=VAL("&"+q$):p=p+a:q=q+a
{PuBp} 120·POKE·p,q-256*INT(q/256):POKE·p+1,
        INT(q/256)
{InAn} 130·NEXT:CALL·a+3
{LsBo} 140·PRINT"Type·|MEMDUMP·or·CALL·&";
        HEX$(a,4):END
{IlAs} 150·PRINT"Error·in·line"l
{GiCm} 160·DATA·c3,1e,40,21,0c,40,01,10,40,c3,d1,
        bc,00,00,00,00,16,40,c3,1e,566
{OnCk} 170·DATA·40,c9,4d,45,4d,44,55,4d,d0,00,21,
        26,41,7e,fe,ff,28,06,cd,5a,7f6
{LjCo} 180·DATA·bb,23,18,f5,cd,eb,40,af,f5,cd,
        a6,40,f1,3c,fe,06,20,f6,cd,f9,c47
{MsCn} 190·DATA·40,cd,f0,40,3e,06,f5,cd,ad,40,f1,
        3c,fe,0c,20,f6,cd,f9,40,cd,b50
{IjBw} 200·DATA·eb,40,af,67,6f,32,69,40,22,5e,
        40,18,42,21,00,00,7c,fe,c0,c8,7c8
{IpCl} 210·DATA·fe,60,20,0f,3e,00,fe,01,28,09,
        3c,32,69,40,cd,f0,40,18,28,7e,6cd
{FwCl} 220·DATA·23,22,5e,40,21,00,00,11,00,00,a7,
        28,07,e5,d5,cd,ea,bb,d1,e1,7c9
{CwCo} 230·DATA·1c,7b,fe,80,20,04,1e,00,23,23,22,
        7d,40,ed,53,80,40,18,be,21,673
{MmCn} 240·DATA·00,00,5d,54,18,f0,f5,cd,b5,40,f1,
        18,1e,f5,d6,06,cd,b5,40,18,942
{PuCm} 250·DATA·f5,47,21,00,00,11,40,00,a7,28,03,
        19,10,fd,1e,06,19,11,d3,ff,5c6
{CwCk} 260·DATA·c3,ea,bb,fe,09,28,03,f2,d6,40,c6,
        30,18,02,c6,37,cd,fc,bb,06,a39
{HqBx} 270·DATA·03,c5,3e,30,cd,fc,bb,c1,10,f7,3e,
        2d,c3,fc,bb,11,84,00,18,03,917
{BsCn} 280·DATA·11,88,01,21,06,00,c3,c9,bb,21,fc,
        ff,11,fe,ff,cd,ea,bb,21,00,9c5
{FjCj} 290·DATA·00,11,84,00,cd,f9,bb,21,86,01,11,
        00,00,cd,f9,bb,21,00,00,11,682
{BmCi} 300·DATA·7c,ff,cd,f9,bb,21,7a,fe,11,00,00,
        c3,f9,bb,04,02,1c,00,00,00,83f
{BlCk} 310·DATA·1c,01,1a,1a,1d,00,00,4d,45,4d,44,
        55,4d,50,20,76,31,2e,37,0d,3bc
{KxCi} 320·DATA·0a,28,63,29,20,31,39,38,39,0d,0a,
        4d,2e,20,57,6f,6e,67,ff,00,505
{AjCk} 330·DATA·01,1e,04,0c,07,10,10,16,13,1e,2d,
        eb,32,a6,3b,f9,3e,f0,44,ad
{MuCj} 340·DATA·4d,f9,50,eb,56,69,59,5e,70,69,73,
        f0,7a,5e,97,7d,9b,80,a8,b5
{KrAv} 350·DATA·b1,b5,d0,d6,1f,126
```

TURBOSOFT

SPECIALS CASSETTE

	RRP	SRP
Afterburner	9.99	3.99
Big Sleaze	9.99	1.99
Blasteroids	9.99	3.99
Bob's Full House	9.99	4.99
Brian Cloughs Football Fortunes	14.95	4.99
Cholo	14.99	2.99
Elite	14.95	4.99
Fernandez Must Die	9.95	2.99
Fighter Pilot	9.99	3.99
Firezone	9.95	3.99
F-15 Strike Eagle	9.95	5.99
Football Manager II	9.99	4.99
Galactic Games	9.99	3.99
Get Dexter	9.99	1.99
Hunt for Red October	14.95	6.99
Mask II	9.99	2.99
Murder on the Atlantic	9.99	1.99
Mystery on the Nile	9.99	1.99
Nebulus	9.99	3.99
Sorceror Lord	12.95	2.99
Stifflip + 'Co	9.95	1.99
Pacific	9.99	2.99
Pacland	9.95	4.99
Pacmania	9.95	4.99
Real Ghostbusters	9.99	3.99
R-Type	9.99	3.99
Running Man	9.99	4.99
Silent Service	9.95	5.99
Strip Poker II +	9.95	3.99
Tai Pan	9.99	3.99
Time & Magik	14.99	4.99
Trivial Pursuits	14.99	6.99
Trivial Pursuits New Beginning	14.99	5.99
Warlock	9.99	1.99

Game Set & Match 2
Only £7.99 Disc £12.50
Matchday II, Ian Bothams Test Match, Basket Master, Super Hang On, Track 'n' Field, Superbowl, Winter Olympiad, Steve Davis Snooker, Nick Faldo's Open

6 Pack Vol 3
Disc only £9.99
Ghost Goblins Paperboy, Living Daylights, Enduro Racer, Escape from Singe's Castle, Dragons Lair

IN CROWD
ONLY £10.99
Barbarian, Gryzor, Crazy Cars, Predator, Karnov, Combat School, Target Renegade, Platoon

TATIO COIN OP
ONLY £8.99
Rastan, Flying Shark, Bubble Bobble, Arkanoid, Slapfight, Arkanoid II, Renegade, Legend of Kage

SUPREME CHALLENGE
ONLY £4.99
DISC £10.99
Elite, Ace, Sentinel, Starglider, Tetris

SOCCER SPECTACULAR
Only £4.99 Disc £10.99
Football Manager, Peter Beardsley's Soccer, World Champions, Handball Maradonna, Soccer Supremo

MEGA MIX
ONLY £9.99
DISC £12.99
Barbarian II, Dragon Ninja, Operation Wolf, The Real Ghostbusters.

THE BIZ
ONLY £10.99
Operation Wolf, R-Type, Batman Caped Crusader, Double Dragon

30 RED HOT HITS
ONLY £6.99
Ghostbusters, FA Cup, Agent X 2, Kane, LA Swat, Ninja Master, Rasputin Ollie and Lissa, Ricochet, Zolyx, Way of Exp Fist, Dan Dare, Formula 1 Simulator, Brian Jack's Superstar Challenge, Tau Ceti, Park Patrol, Thrust, Harvey Headbanger, War Cars, Tarzan, Ninja Hamster, Enlightenment - Druid II, The Boggit, Mystery of the Nile, Mega Apocalypse, Endurance, Activator, Catch 23, Dark Sceptre

AMSTRAD TOP 30 HITS

	CASS	DISC
Altered Beast	6.99	10.99
Batman the Movie	6.99	10.99
Cabal	6.99	10.99
Carrier Command (6128 only)	N/A	12.99
Chase HQ	6.99	10.99
Continental Circus	6.99	10.99
Crazy Cars II	5.99	9.99
Dynamite Dux	6.99	10.99
Footballer of the Year II	6.99	10.99
Forgotten Worlds	6.99	10.99
Ghostbusters II	7.99	10.99
Ghouls 'n' Ghosts	6.99	10.99
Hard Drivin	6.99	10.99
Indy Jones & Last Crusade	6.99	10.99
Kick Off	6.99	10.99
Moonwalker	6.99	10.99
Mr Heli	6.99	10.99
Myth	6.99	10.99
New Zealand Story	6.99	10.99
Ninja Warriors	6.99	10.99
Operation Thunderbolt	6.99	10.99
Paul Gascoigne Soccer	5.99	9.99
Power Drift	6.99	10.99
Purple Saturn Day	6.99	10.99
Rick Dangerous	6.99	10.99
Robocop	6.99	10.99
Super Wonderboy	6.99	10.99
Turbo Outrun	6.99	10.99
Tusker	6.99	10.99
Untouchables	6.99	10.99

AMSTRAD CLASSICS

	CASS	DISC
Ancient Battles	10.99	N/A
Airborne Ranger	10.99	13.99
A.P.B.	6.99	10.99
Chuck Yeagers (AFT)	6.99	10.99
Colossus Bridge	8.99	11.99
Colossus Chess 4	7.99	11.99
Crazy Cars	2.99	N/A
Cricket Master	6.99	10.99
Deluxe Scrabble	N/A	11.99
Dragon Ninja	6.99	10.99
Dragon Spirit	6.99	10.99
Emlyn Hughes Int Soccer	6.99	10.99
Football Director	6.99	N/A
Football Director II	N/A	13.99
Football Manager II	4.99	9.99
Games Summer Edition	7.99	11.99
Graham Gooch Cricket	1.99	N/A
Gunship	10.99	13.99
Heroes of the Lance	7.99	14.99
Kenny Dalglish Soccer	6.99	10.99
Laser Squad	6.99	10.99
Last Ninja II	8.99	10.99
Licence to Kill	6.99	10.99
Microprose Soccer	10.99	12.99
Monopoly	7.99	11.99
On the Bench	2.99	N/A
Operation Wolf	6.99	10.99
Passing Shot	6.99	10.99
Pictionary	9.99	12.99
Red Heat	6.99	10.99
Renegade 3	6.99	10.99
Run the Gauntlet	6.99	10.99
R-Type	6.99	10.99
Shinobi	6.99	10.99
Stormlord	6.99	10.99
Tank Attack	9.99	12.99
The National	6.99	N/A
Times of Lore	6.99	10.99
Toobin	6.99	10.99
Tracksuit Manager	6.99	N/A
Treble Champions	6.99	10.99
Vigilante	6.99	10.99
Vindicators	6.99	10.99
Vulcan	6.99	N/A
War in Middle Earth	6.99	10.99
W E C LeMans	6.99	10.99
3D Pool	6.99	10.99

FORTHCOMING ATTRACTIONS

	CASS	DISC
Action Service	6.99	10.99
Adidas Golden Shoe	6.99	10.99
After the War	6.99	10.99
Beach Volley	6.99	10.99
Beverley Hills Cop	6.99	10.99
Black Tiger	6.99	10.99
Bloodwych	6.99	10.99
Bomber	9.99	12.99
Cyberball	6.99	9.99
Double Dragon II	6.99	10.99
Dr Dooms Revenge	5.99	9.99
Driving Force	6.99	10.99
F-16 Combat Pilot	10.99	13.99
Galaxy Force	6.99	10.99
Fiendish Freddys	6.99	10.99
Fighting Soccer	6.99	10.99
Golden Axe	6.99	10.99
Iron Lord	6.99	10.99
Knight Force	5.99	9.99
Onslaught	6.99	10.99
P-47 Thunderbolt	6.99	10.99
Player Manager	6.99	10.99
Quaterback	6.99	10.99
Rainbow Island	6.99	10.99
Saint & Greavsie	5.50	9.99
Scape Ghost	10.99	13.99
Strider	6.99	10.99
Stunt Car Racer	10.99	13.99
Super Wonderboy	6.99	10.99
Terry's Big Adventure	5.50	9.99
The Champ	6.99	10.99
Tin Tin on the Moon	6.99	10.99
Wild Streets	5.99	9.99
Xenophobe	6.99	10.99

Please note that the majority of the forthcoming attractions are not released at time of going to press. These will be despatched within 24 hours of release subject to availability.

EDUCATIONAL

	CASS	DISC
Answer Back Junior	7.50	10.99
Better Maths12-16	8.99	13.99
Better Spelling 9-14	8.99	13.99
Fun School II Under 6	6.99	9.50
Fun School II 6-8	6.99	9.50
Fun School II 8+	6.99	9.50
French Mistress A+B	N/A	15.99
General Science	N/A	7.99
Magic Maths 4-8	8.99	13.99
Spelling	N/A	7.99
Three Bears	N/A	14.50
World Wise	7.99	10.99

SPECIALS DISC

	RRP	SRP
Afterburner	14.99	5.99
Ballbreaker I or II	14.95	3.99
Bards Tale I	14.99	6.99
Baseball	14.99	4.99
Beyond the Ice Palace	14.99	5.99
Dark Sceptre	14.99	5.99
Druid II Enlightenment	14.99	4.99
Fair Means or Foul (boxing)	14.99	5.99
Galactic Games	14.99	4.99
Galaxy Force	14.99	5.99
GFL American Football	14.95	4.99
Gothic	14.99	4.99
Heartland	14.95	3.99
Hopping Man	14.99	5.99
Hunt for Red October	14.99	9.99
Karnov	14.99	4.99
Led Storm	14.95	5.99
Mindfighter	14.99	4.99
Never Ending Story	14.99	4.99
Oink	14.99	3.99
Overlander	14.99	5.99
Pacland	14.99	6.99
Pacmania	14.99	6.99
Real Ghostbusters	14.99	5.99
R Type	14.99	5.99
Sentinel	14.99	4.99
Spy Vs Spy Island Caper	14.99	4.99
Tetris	14.99	4.99
Thundercats	14.99	6.99
Vindicators	14.95	5.99

MEGA GAMES VOL 1
CASS ONLY £6.99
Northstar, Cybernoid, Deflektor, Triaxos, Blood Brothers, Mask II, Tour De Force, Hercules, Masters of the Universe, Blood Valley

MAGNIFICENT 7
Only £6.50 Disc £13.95
Head Over Heals, Cobra & Arkanoid, Short Circuit & Wizball, Frankie Goes to Hollywood, Great Escape & Yie Ar Kung Fu

CHRISTMAS COLLECTION
Only £8.99 Disc £12.99
Cybernoid II, Eliminator, Exolon, Hydrofool, Lightforce, Uridium

FLIGHT ACE
CASS ONLY £6.99
A.T.C., Ace, A.T.F., Spitfire 40, Tomahawk, Strike Force Harrier.

COMPUTER HITS VOL 5
ONLY £4.99 DISC £10.99
Dark Sceptre, Tarzan, Catch 23, Mystery of the Nile, Endurance, Mega Apocalypse, Ninja Hampster, Activator, The Boggit, Druid II

DYNAMITE
Only £9.99 Cass Only.
Afterburner, Last Ninja II, WEC Le Mans, Double Dragon

TOLKIEN'S TRILOGY
Only 8.99 Disc £11.99
The Hobbit
Lord of the Rings
Shadows of Mordor

LEADERBOARD PAR 3
Only £9.99 Disc £13.99
Leaderboard, Leaderboard Tournament, World Class Leaderboard

WINNERS
ONLY £10.99
DISC £14.99
Thunderblade, Led Storm, Indy Jones & Temple of Doom, Blasteroids, Impossible Mission II

COIN OP HITS
ONLY £10.99
DISC £14.99
Outrun, Thunderblade, Road Blasters, Spy Hunter, Bionic Commando

LOOK! MEGA OFFER LOOK!

For every £10 spent you can choose a free gamefrom the list below
Mr Weems and the She Vampires, Mega Apocolypse, Dandy, High Frontier, Hijack, Sailing, Ball Breaker, Star Raiders II, Lee Enfield, Tournament of Death, Fury, Prodigy, Vixen, Mandragore, Rasputin, Explorer.
(CASS ONLY)

Best of Elite Vol 1 Disc only £6.99
Bombjack, Frank Bruno's Boxing, Commando, Airwolf

Best of Elite Vol II Disc only £8.99
Paperboy, Ghost N Goblins, Battleships, Bombjack II

41 SOUTH STREET, LEIGHTON BUZZARD, BEDS, LU7 8NT TEL: 0525 377974 FAX: 0525 852278

ORDER FORM

Please supply me with the following for

Computer ....

Titles	Price

DATE: ....

NAME: ....

ADDRESS: ....

....

....

................Post Code................

TEL: ....

AMSTRAD ACTION APRIL '90

Please make cheques & PO payable to ***Turbosoft***

Orders under £5 please add 50p per item. Over £5 p&p ***FREE*** *in UK. Elsewhere please add £1.50 per item.*

N.B. Please state clearly mode of computer & also cassette or disc when ordering

CHEAT MODE

Ouch! Thirty-six of the best in Uncle Phil's whacking great *Cheat Mode* debut...

OK, so what's all this then? Big changes in the *Cheat Mode* section? Well, maybe. Trenton, being of a more delicate and literary bent, has chosen to devote his erudite badinage (whaaat?) to the reviews, leaving me to sort through the usual thunderously huge *AA* mailbag of hints, cheats, passwords etc...

So, after an age of wading waist-deep in letters, I think I know exactly what you want (even if it is unprintable). Stephen Troupe of Kings Lynn (great cheats Steph!) tells me the Sinclair mags have considerably more cheats than us, up to 8 pages of pokes every month. Well, that is entirely up to you... (I suspect people who buy Spectrums probably need a cheat to switch it on anyway!). Meanwhile, what I need, to fill these few humble leaves, are vast amounts of:

- Disk pokes
- Tape pokes
- Multiface pokes
- Maps
- Passwords
- Keypress cheats
- Playing tips
- Solutions

In fact, anything at all which will put a stop to this senseless pulling of hair and chewing of fingernails that gameplayers are heir to. *Cheat Mode* needs YOU (well, your cheats), and don't forget there are great riches in store for the best of the bunch. So, get writing/drawing/typing, and to speed things up, please send routines on tape or disc with a SAE if you want them back.

Meanwhile, if you fancy an old cheat reprinting from the *Classic Collection*, write it on a postcard (or the back of a fiver) – that'll make it easier to check popularity. I can't send them back individually, so please don't ask.

Just a couple of things before we get on with it (get on with it!). If you are into those sort of things, then you will have noticed that Ocean, Imagine and Activision have now joined the ranks, along with US Gold, in the "jolly difficult to poke protection" league. The truth is that pokes for their new system, although possible, would be just as awful to type in as the lock/key routines, and take about 3 times as long to run! Can you really be bothered? Let me know.

As luck (?) would have it, an ever-increasing number of programmers are introducing keypress cheats (really for use by their games testers) which are invaluable to the player. Isn't it about time more programmers/software houses started considering the people who buy their games, and allowed easy access to higher levels (even if they do hide them away)? Then, perhaps, their games could be enjoyed to the full.

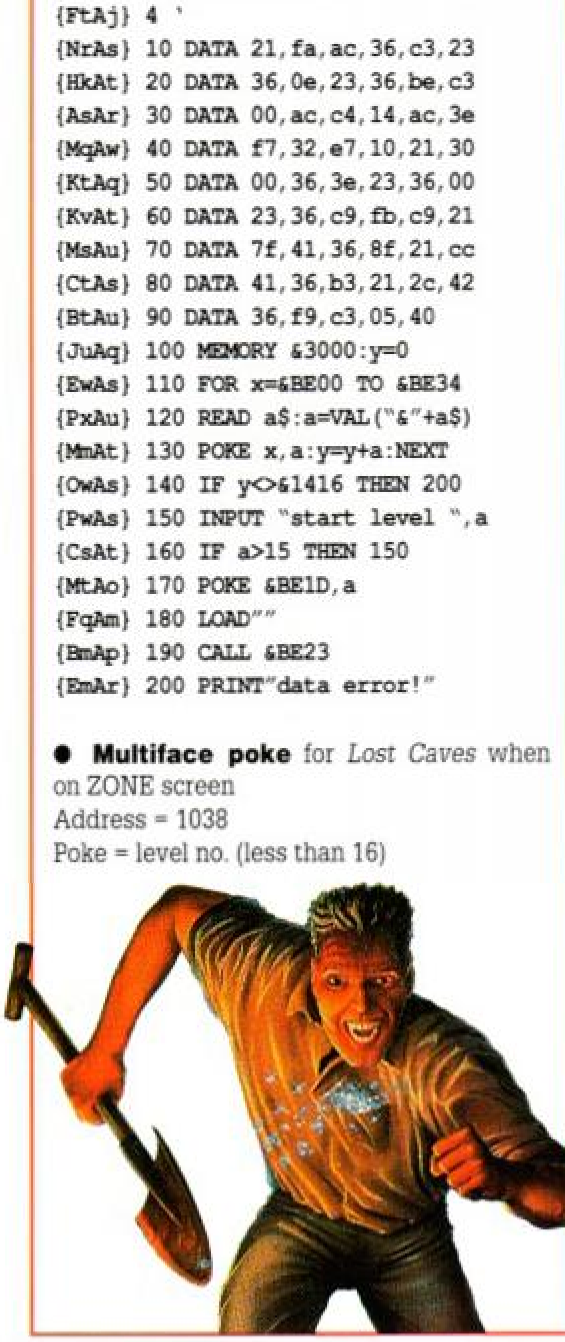


I've come across a technique that really should have gone into the Insider *Dealing pages*. You phone up the chap who wrote the game and say "The game's great, but I can't get past the first level!". Naturally he panics (thinking he has made the game too hard), and offers up a routine to help you out. This is a tape poke for that heavily nepotised game, *Lost Caves*.

```
{ExAo} 1 'LOST CAVES
{FrAj} 2 '
{PuAq} 3 'Select level
{FtAj} 4 '
{NrAs} 10 DATA 21,fa,ac,36,c3,23
{HkAt} 20 DATA 36,0e,23,36,be,c3
{AsAr} 30 DATA 00,ac,c4,14,ac,3e
{MqAw} 40 DATA f7,32,e7,10,21,30
{KtAq} 50 DATA 00,36,3e,23,36,00
{KvAt} 60 DATA 23,36,c9,fb,c9,21
{MsAu} 70 DATA 7f,41,36,8f,21,cc
{CtAs} 80 DATA 41,36,b3,21,2c,42
{BtAu} 90 DATA 36,f9,c3,05,40
{JuAq} 100 MEMORY &3000:y=0
{EwAs} 110 FOR x=&BE00 TO &BE34
{PxAu} 120 READ a$:a=VAL("&"+a$)
{MnAt} 130 POKE x,a:y=y+a:NEXT
{OwAs} 140 IF y<>&1416 THEN 200
{PwAs} 150 INPUT "start level ",a
{CsAt} 160 IF a>15 THEN 150
{MtAo} 170 POKE &BE1D,a
{FqAm} 180 LOAD""
{BmAp} 190 CALL &BE23
{EmAr} 200 PRINT"data error!"
```

- **Multiface poke** for *Lost Caves* when on ZONE screen

Address = 1038
Poke = level no. (less than 16)



SAIGON COMBAT UNIT

Regular patron and general good guy, Graham Smith of Street coughs up tape and Multiface pokes for this unethical romp through the blood and gore of old Saigon. Meanwhile, Carl Surry of Barnet has supplied the password for the second side – STARLIGHT.

```
{GoAs} 1 ' Saigon Combat Unit
{HvAq} 2 ' By Graham Smith
{GkAs} 3 ' Infinite lives,
{AtAq} 4 ' ammo & bombs
{HoAq} 5 ' Tape - method 1
{FvAj} 6 '
{JnAt} 10 DATA c4,14,ac,3a,16,71
{BmAu} 20 DATA fe,02,20,0c,af,32
{PrAt} 30 DATA fe,a3,32,12,a4,32
{PvAt} 40 DATA 98,a3,fb,c9,af,32
{MsAt} 50 DATA 2d,a5,32,41,a5,32
{FiAt} 60 DATA c7,a4,fb,c9,3e,8f
{OjAu} 70 DATA 32,7f,41,3e,b3,32
{LxAt} 80 DATA cc,41,21,5e,46,36
{HxAw} 90 DATA f2,2b,36,db,2b,36
{FjAq} 100 DATA 0f,c3,05,40
{NvAs} 110 FOR j=0 TO 57:READ a$
{DpAu} 120 x=VAL("&"+a$):y=y+x
{FvAu} 130 POKE j+48640,x:NEXT j
{BjAs} 140 IF y<>6344 GOTO 170
{LqAq} 150 MEMORY &3FFF:LOAD"
{IpAo} 160 CALL 48674
{OqAq} 170 PRINT"data error
```

- **Multiface pokes:**

ADDRESS	POKE	EFFECT
SIDE A		
A398	00	lives
A3FE	00	ammo
A412	00	bombs
SIDE B		
A4C7	00	lives
A52D	00	ammo
A541	00	bombs

MUTANT FORTRESS

Get just that bit further along the road of this Players multi-load, mini-price game with an infinite lives tape poke from Peter Hall, Vietnam veteran and Basildon's ex-Elephant Man.

```
{BrAr} 1 'mutant fortress
{FrAj} 2 '
{MpAq} 3 'infinite lives
{FtAj} 4 '
{NrAs} 10 DATA 21,fa,ac,36,c3,23
```

```
{HkAt} 20 DATA 36,0e,23,36,be,c3
{PkAq} 30 DATA 00,ac,3e,a7,32,98
{JxAt} 40 DATA 07,cd,14,ac,fb,c9
{JwAs} 50 DATA 21,7f,41,36,8f,21
{EwAt} 60 DATA cc,41,36,b3,21,2c
{HxAt} 70 DATA 42,36,f9,c3,05,40
{MlAq} 80 MEMORY &3000:y=0
{FnAs} 90 FOR x=&BE00 TO &BE29
{NtAt} 100 READ a$:a=VAL("&"+a$)
{KiAt} 110 POKE x,a:y=y+a:NEXT
{AjAt} 120 IF y<>&1137 THEN 150
{HwAm} 130 LOAD""
{MtAp} 140 CALL &BE18
{OvAq} 150 PRINT"data error!"
```

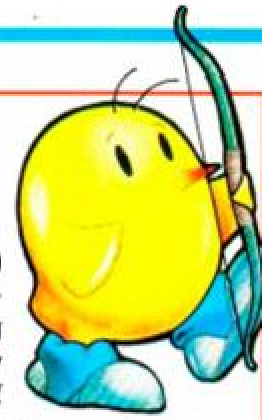
Exolon • Cybernoid • Cybernoid II

And while we're about it, how about infinite lives on Raph Ceccos other three masterpieces:-

- EXOLON: redefine the keys as Z,O,R B,A.
- CYBERNOID: redefine the keys as Y,X,E,S.
- CYBERNOID II: redefine keys as O,R,G,Y.



New Zealand Story • Druid



Stephen Troupe (I think you will be seeing his name again) of Kings Lynn suggests that by typing FLUFFY very slowly on the title screen of *New Zealand Story* you get infinite lives, plus by pressing the large ENTER/RETURN key you can move to the next level. He also says that THE COVENANT typed into *Druid*'s hi-score table removes all the monsters from the game.

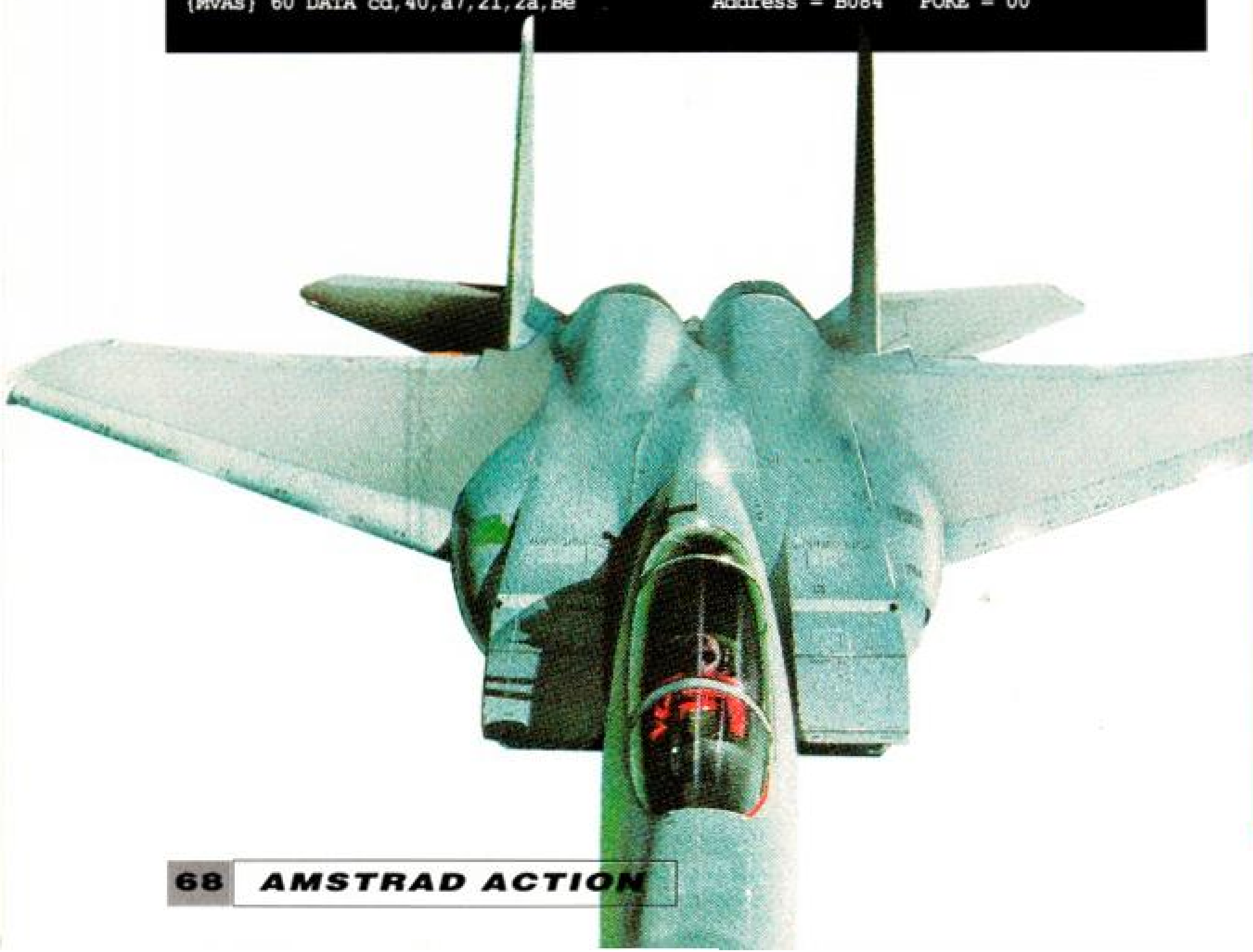
TYPHOON

Let Roy Disney from Bury St. Edmunds put the "OO" in *Typhoon* (well, *I* thought it was quite good) for you with this tape and Multiface poke.

```
{FoAn} 1 'typhoon
{FrAj} 2 '
{MpAq} 3 'infinite lives
{FtAj} 4 '
{CmAt} 10 DATA 21,16,bd,36,c3,23
{HkAt} 20 DATA 36,0e,23,36,be,c3
{MpAs} 30 DATA 84,98,21,17,be,22
{FrAt} 40 DATA 46,a5,c3,08,a5,dd
{NqAs} 50 DATA 21,b1,a7,11,ab,00
{MvAs} 60 DATA cd,40,a7,21,2a,Be
{AjAu} 70 DATA 22,5a,a8,c3,db,a7
{JpAu} 80 DATA af,32,84,70,32,36
{KsAr} 90 DATA 71,c3,60,13
{CkAp} 100 y=0:MEMORY &5000
{OrAr} 110 FOR x=&BE00 TO &BE33
{PxAu} 120 READ a$:a=VAL("&"+a$)
{MmAt} 130 POKE x,a:y=y+a:NEXT
{JtAt} 140 IF y<>&15D9 THEN 170
{MkAp} 150 LOAD"typhoon
{LtAo} 160 CALL &BE00
{BjAs} 170 PRINT"data error!"
```

- **Multiface Poke for infinite lives:**

Address = B084 POKE = 00



THE UNTOCHABLES

Stuart France from Hornchurch has found this cracker for *The Untouchables*. Type HUMPHREY BOGART into the hi-score table and TEST MODE ACTIVE will light up in the top left hand corner of the screen. Then, by pressing the keypad keys "9","6","3",".", and "right arrow" together you will move on to the next level.



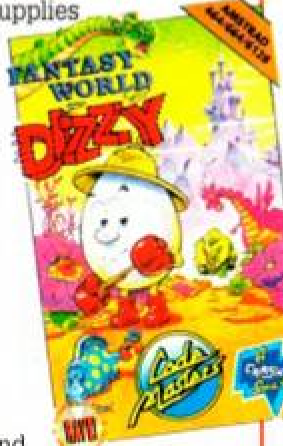
GHOSTBUSTERS 2

After the glorious technicolour *Ghostbusters II* tips in last months *Cheat Mode*, here's the cheat which gives you infinite lives and the inedible ropes that Trent used (but chose not to tell you) for the first level. Press P to pause the game, then Type AYKROYD (get it?) and P to return to the game.



DIZZY 3

True to form those good ol' boys Oliver have stuck a cheat word in *Dizzy 3*. It turns out that DYLAN supplies more information than you think, 'cos that's the word. On the title screen press the keys "D", "Y", "L", "A", "N" and "SPACE" together to start the game, keeping your fingers on DYLAN press "Q" and you're in.



Keys "K, "M", "Z" and "X" move location and Space returns you to the game. Nice one lads!

Andrew J Scott tells us to type LIVEWIRE into the Hi-score table of **Super Stuntman** for a never ending supply of everything.



JOE BLADE 3

Players' bouncing squaddie, hat trick game gets treated to infinity. Zap the guards, unlock the doors, rescue the hostages, plant the bombs, solve the puzzles, but do it quick, or you'll miss the start of *Joe Blade 4*... too late, *Joe Blade 5*.

```
{HsAp} 1 'joe blade 3
{FrAj} 2 '
{DvAt} 3 'infinite energy + ammo
{FtAj} 4 '
{NrAs} 10 DATA 21,fa,ac,36,c3,23
{HkAt} 20 DATA 36,0e,23,36,be,c3
{AsAr} 30 DATA 00,ac,c4,14,ac,3e
{IiAt} 40 DATA c9,32,57,0f,fb,c9
{JwAs} 50 DATA 21,7f,41,36,8f,21
{EwAt} 60 DATA cc,41,36,b3,21,2c
{HxAt} 70 DATA 42,36,f9,c3,05,40
{MlAq} 80 MEMORY &3000:y=0
{FnAs} 90 FOR x=&BE00 TO &BE29
{NtAt} 100 READ a$:a=VAL("&"+a$)
{KiAt} 110 POKE x,a:y=y+a:NEXT
{JjAu} 120 IF y<>&1117 THEN 150
{HwAm} 130 LOAD""
{MtAp} 140 CALL &BE18
{OvAq} 150 PRINT"data error!"
```

● **Multiface Poke for infinite stuff:**
ADDRESS = 0F57 POKE = C9



THE MULTIFACE WAY.

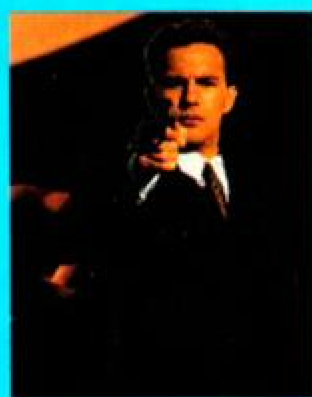
And finally, a plethora of Multiface Pokes from Paul Williams of Llangybi, Stephen Frackleton of Liverpool, Michael Leatherbarrow of Formby (how's George?) and Stephen Truupe (I've seen that name before) of Kings Lynn.



Just one thing, however. You may notice that there are TWO pokes for *Chase HQ*, one for the Tape version and one for the Disk version. This is because the game, it seems, has been assembled differently for each format. This may well be the case on other games also, so, for sanity's sake, please try to indicate tape or disk versions when sending Multiface pokes. Also, bear it in mind if one of the pokes you try refuses to work. (excuse number 472/B)

NAME	ADDRESS	POKE	EFFECT
Batman the Movie	1D62	FF	Removes grenades
Shinobi	0F62	00	Inf. lives
Vindicator level 1	05B4	A7	Inf. Oxygen
	0BD9	A7	Inf. lives
level 2	1021	A7	Inf. lives
level 3	12F9	A7	Inf. lives
	060E	00	Inf. time (part 1)
	0615	00	Inf. time (part 2)
R-Type	927B	A7	Inf. credits
Joe Blade 3	2079	A7	No Baddies
Wec Le Mans	1345	00	Inf. time
Fast Food	570C	00	Inf. lives
Turbo Esprit	6FF7	7E	Lots of lives
Batty	432B	FF	255 lives
Buggy boy	1E7F	C9	Inf. time
Game Over	1F7C	00	Inf. lives
Combat School	042C	0A	Slows timer
Chase HQ (disc)	2022	00	Inf. time
	3820	00	Inf. turbo
Chase HQ (tape)	2074	00	Inf. time
	3872	00	Inf. turbo
Operation Thunderbolt	CF62	00	Inf. life
Ghouls'n Ghosts	3182	A7	Inf. life
Untouchables	0FD2	A7	Inf. time
Vigilante	5816	A7	Inf. life

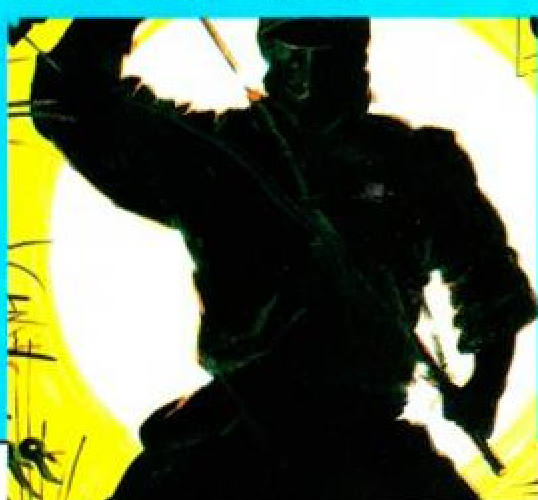




Just in case you don't already how to put in these BLACK BOX POKES, here are the steps to success:

a) Load the game as normal
b) Press the RED button on the MULTIFACE
c) Press "T" for tool
d) Press "*" to make sure you select the code
e) Press "H" for HEXADECIMAL input
f) Press "SPACE" for input
g) Type in the ADDRESS (4 characters ie. 3A7C)
h) Type in the POKE (2 characters ie. A7)
i) Press "RETURN"
j) Press "ESC" back to the menu
k) Press "R" return to the game







Stormlord

Ben James of Thrapston has found a cheat for *Stormlord* – you certainly need it. Type BRINGONTHEGIRLS (quickly and without spaces) while the title screen is displayed (a number 12 appears at the top left if you do it in time). Then selecting 1 to 4 will allow you to play that level with infinite lives.

GHOSTBUSTERS II

Christopher Burns and Stephen Docherty way up in Bearsden, Glasgow (If there's something weird in you neighbourhood) are both on the lookout for a bit of fame. To achieve it they have put together a playing guide for level 3 of *Ghostbusters II*, where actions have to be completed in a certain order. Take it away, guys:

1) Having abseiled the team in, chose any member to get Oscar from in front of the painting. Carry him away and give him to Peter (use the weapons select screen).

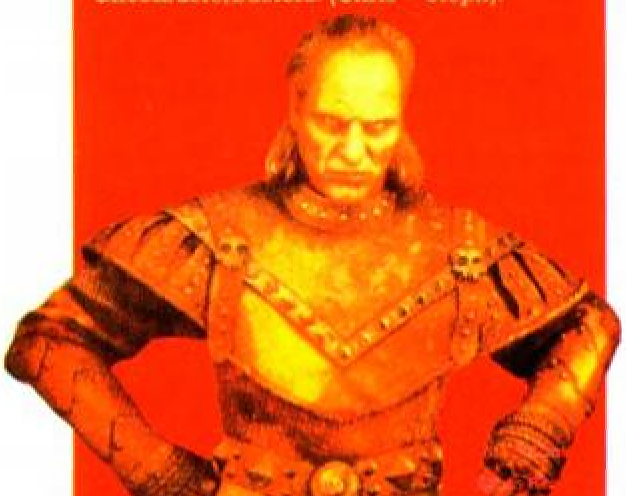
2) Select Winston, chase Janosz and shoot him with the slime gun until he disappears. Virgo should now walk out of the painting.

3) Change weapons so that Ray has Peter's Proton gun and Peter has Ray's Slime gun.

4) Pressing and holding down the Fire button will release a continuous stream from Ray's gun, which will remain firing after the button is released. Position Ray so that he is shooting at Virgo, causing him to be stunned. Then select Egon (Ray should continue to fire) and position him so that he is also shooting at Virgo, who should now start to lose energy. When the energy hits zero Virgo will possess Ray, the status screen will say that Ray is dead and anyone can take his gun. Now, any member with a Proton gun can fight Ray/Virgo, who, when hit, steps back. The final stage is to force Ray/Virgo into the painting, and he will die when his energy runs out.

5) Sit back and watch the End Game routine, and don't forget to look out for the spelling mistake on the last screen.

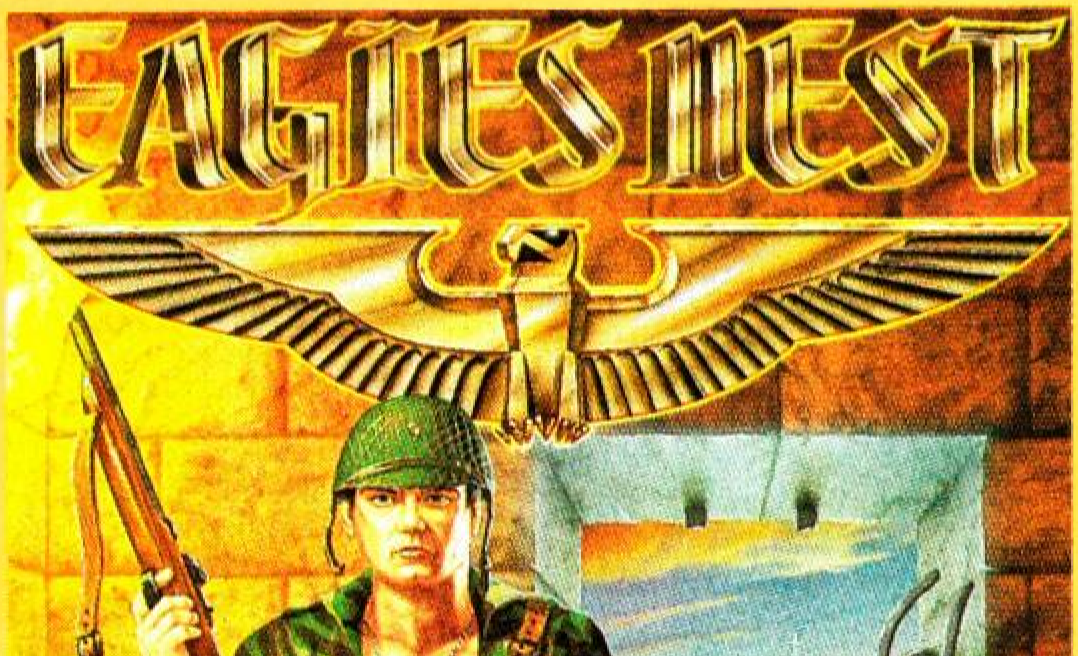
So who you gonna' call?.... *Ghostbusterbusters*. (Chris + Steph).



INDIANA JONES AND THE LAST CRUSADE

If you're not having a lot of success with the *Indiana Jones and the Last Crusade* cheat from *AA*52, that's because you press the keys "T","O" and "D" all together on the title screen ONLY to turn the cheat on and off – the border should flash. During play SHIFT + "1" returns to start of the level. SHIFT + "2" moves you to the next restart. SHIFT + "3" moves you to the next level. How about that then?





A much-requested golden oldie is for *Into the Eagles Nest*. By typing DAS CHT into the hi-score table you attain infinite health. Unfortunately, you can still run out of ammo. Thanks to *AA*23 and Glenn Pinnock of Basingstoke for that one.

Anatomy of an RSX

Relocating RSXs is a toughie, but in Part 2 of his RSX tutorial, DAVID HOLMES reckons he has the answer...

It can be difficult to arrange for RSX routines to be relocatable as the code involves several absolute addresses which will require alteration unless the code is run at the address to which it was originally assembled.

It is not always easy to predict where in memory each user may wish to place the code as the presence of external ROMs or other RSX routines, for example, alter the value of HIMEM to a considerable degree. For this reason it is desirable to allow the code to be as flexible as possible.

There are two ways of achieving this. One way is to use a machine code relocator program which is added to the RSX code. This can be quite complex, however, and may involve a considerable amount of effort which is not justified in a short routine.

BASIC solution

The method used here is to use the BASIC loader program Listing 1 to relocate the code as described below.

When the program has been developed the code can be assembled to any reasonable position and then the bytes relating to any absolute address can be noted. It may be easiest to assemble to two different locations and then use the assembler to compare the two blocks of code. The addresses noted as different are those referring to absolute addresses.

An absolute address is an address that is defined as a fixed point in the memory rather than a point relative to the start of the code. Such an address will be always at the same distance from the start of the code but its actual value will depend upon the code origin. It is this value which must be adjusted to allow the code to run at any specific load address.

The problems occur in the first section of code which sets up the RSX. For example, the address of the command table defined in bytes two and three is an absolute address. The same applies to the address of the workspace defined in bytes five and six, the address of the name table defined in bytes &d and &e and the address of the label .fade defined in bytes &10 and &11. The remainder of the code contains no absolute addresses (other than Firmware calls) and is completely relocatable.

Only absolute addresses referring to locations within the code itself require relocation for different load addresses. Absolute addresses are used when registers are loaded from memory locations (either numbered or labelled), when memory locations are loaded from registers and when calls or jumps (not relative jumps) are made to labelled locations. For this reason relative jumps (jr instructions) should be used when possible to reduce the amount of relocation work to be done. Firmware calls cause no problem as they are not affected by the position of the RSX code in memory.

Defining terms

In order to explain the principles of relocation clearly it is valuable to define some terms. The absolute address itself is defined within the code by the contents of an address which is at a fixed point from the start of the code. To use the example of the command table, its address is pointed to by bytes two and three. This is true for any start address. The addresses of these bytes may be described as the Definition Offset Address (DOA) and this is found at the Definition Offset (DO) from the start of the code. For the command table the low byte of the DOA is at start+1 and the high byte is at start+2. Only one value is required to define the position of this address so I have chosen to use the offset of the high byte. Therefore the DO value used for the relocation of this address is two.

As stated above the absolute address pointed to is also at a fixed distance from the start of the code. The command table label for example is found at start + &0d. This may be described as the Absolute Offset Address (AOA) and it identifies a location at the Absolute Offset (AO) from the start of the code,

WIN WIN WIN...!

Smogware systems, which produces *RSX-Lib* (reviewed *AA*51) are offering five free copies of the package to readers sending in the best routines. The rules are as follows:

1. Prizes will be awarded to the suppliers of the best five machine code routines received by the 30th April 1990 – "best" should mean "most powerful, most useful" etc, and will be decided by the *AA* team.
2. The winning routines must be *RSX-Lib*-able – i.e. they must be capable of relocation by *RSX-Lib* (with or without the Internal Relocation option being used).
3. Winning routines may be supplied as either CALLed routines or as RSX routines, but in the form of a BASIC program with DATA statements (so that those without assembler programs can make use of it). If supplied as an RSX routine, it must be capable of Dis-Assembly by *RSX-Lib*.
4. A special additional bonus prize of – gasp – *a Smogware sweatshirt* will go to one lucky winner...
5. Entries should be sent (with an SAE) to RSX COMP, Amstrad Action, Beauford Court, 30 Monmouth Street, Bath BA1 2AP. Remember, the competition closes on April 30th, so get cracking!

Smogware is also planning a version 2 of *RSX-Lib*, depending on how sales of the first program go. If Smogware goes ahead, the new version will:

- Be written entirely in machine code, resulting in faster execution in all areas and tidier memory usage. It should also free more space for library entries.
- Make use of extra memory on 6128.
- Give a Relocation Report, showing what code would be altered by Internal Relocation and how – produced to screen or printer.
- Give a Dis-Assemble option to check for addresses outside the individual routine, but within the RSX file, and report them as errors to make it easier to identify routines that share code etc.
- Improve the existing 52 RSXs, and add further (more adventurous) ones.



LISTING 1: RSX RELOCATION

```
10 REM screen fade
20 REM by D.Holmes
30 REM Use |ADE,pen,rate
40 start=HIMEM-&40:REM &40 is the length of the code
50 MEMORY start-1:REM Sets HIMEM to one below start of code
60 addr=start
70 FOR lin=1 TO 8
80 READ byte$,checksum
90 check=0
100 FOR n=1 TO 15 STEP 2
110 byte=VAL("&"+MID$(byte$,n,2))
120 check=check+byte
130 POKE addr,byte:addr=addr+1
140 NEXT
150 IF checksum<>check THEN PRINT "error in line" ,1000+10*(lin-1):STOP
160 NEXT
170 REM Relocator section
180 RESTORE 1080
190 check=0
200 FOR n=1 TO 4
210 READ DO$,AO$:REM High byte value of DOA and AO value as hexadecimal string
220 DObyte=VAL("&"+DO$)
230 AObyte=VAL("&"+AO$)
240 check=check+DObyte+AObyte
250 AOA$=HEX$(start+AObyte):REM works out AOA as a four digit hexadecimal string
260 DOAhi=start+DObyte:REM high byte of DOA
270 DOAlow=DOAhi-1:REM low byte of DOA
280 POKE DOAlow,VAL("&"+RIGHT$(AOA$,2)):REM low byte of AOA into low byte of DOA
290 POKE DOAhi,VAL("&"+LEFT$(AOA$,2)):REM high byte of AOA into high byte of DOA
300 NEXT
310 READ checksum
320 IF check<>checksum THEN PRINT "Error in relocation data":STOP
330 CALL HIMEM+1:REM Call the code to log on the RSX
340 NEW:REM Erase loader so that it cannot be run twice. Save before running!
1000 DATA 010DA22109A2C3D1, 784
1010 DATA BC0000000012A2C3, 563
1020 DATA 17A2464144C500FE, 839
1030 DATA 02C0DD7E02CD2CBC, 980
1040 DATA 571E002100C072DD, 677
1050 DATA 46002310FD3E00BC, 624
1060 DATA 300218F21C2100C0, 569
1070 DATA 6B7BDDBE0020E7C9, 1105
1080 DATA 2,d,5,9,e,12,11,17:REM DO and AO pairs as hexadecimal strings
1090 DATA 101:REM checksum
```

In this case the AOA equals start + &0d and the AO has a value of &0d.

To relocate the code each DOA must be loaded with the value of the related AOA. The DO values can be noted by an examination of the assembler listing or by using a comparison of the code assembled to two different locations as suggested above. The AO values are the offsets from the code origin of the actual values contained in both bytes of the DOA. These bytes must be subtracted from the code origin to give the AO value.

Most assemblers will allow assembly to a code origin of zero (although the code is stored elsewhere).

If the listing of this is examined the AO values can be read off directly for each DOA as the contents of the two bytes of each DOA give the value of the AO. Do not forget that they are given in low byte, high byte order and must be reversed to give the AO value. In short routines as in this case, only the low byte will actually be used as the high byte will be zero.

The length of the code can be worked out from the assembler listing so the BASIC loader can reserve the correct number of bytes as shown in lines 30 and 40 of Listing 1. It is important that HIMEM is not below (&3fff+code length) when the program is run or the workspace and command table may be loaded below &3fff. This is below the lower ROM and the RSX will not be initialised.

The bulk of the code can then be poked in with a standard hex loader. To complete the program the relocator section reads in the pairs of DO and AO values from a DATA line.

Table of values

The table shows the DO and AO values for each address in the |FADE program as taken from listing 2 (see *AA*54).

Label defined	Definition Offset (High byte)	Absolute Offset
command_table	&2	&d
space	&5	&9
name_table	&e	&12
fade	&11	&17

As BASIC now knows the start address, it is easy to find each AOA by adding the value of the AO to start. If this is calculated in hexadecimal, the low and high bytes can be separated using the RIGHT$ and LEFT$ funtions.

The high byte of the DOA can be found by adding the value of the DO to start. The low byte can be found by subtracting one from this value.

The low byte of the AOA is poked into the low byte of the DOA and the high byte of the AOA is poked into the high byte of the DOA.

This procedure is performed for each DOA and the code is then CALLed. This installs the RSX and the loader program is deleted to prevent it from being run again.

It is worth spending a little time adding a relocator to any RSX programs which are designed to store code just below HIMEM as this allows a library of routines to be built up. These can then be used when required with the minimum usage of memory as each routine can be added at the highest available location.

LISTING 2

```
        org   &a200
.start
        ld    bc,command_table
        ld    hl,space     ;four byte workspace
        jp    &bcd1        ;log external command

.space rmem 4

.command_table
        defw  name_table
        jp    fade

.name_table
        byte "FAD"         ;Define command name
        byte"E"+&80
        byte 0

.fade                      ;start of code
        cp    2            ;check number of parameters
        ret   nz           ;return if not two

        ld    a,(ix+2)     ;get 1st parameter=pen number
        call  &bc2c        ;screen ink encode
        ld    d,a          ;encoded ink into d

        ld    e,0          ;set outer loop counter
        ld    hl,&c000     ;set hl to start of screen

.plot
        ld    (hl),d       ;ink into screen byte
        ld    b,(ix+0)     ;get 2nd par =step rate into b

.next
        inc   hl           ;step up scrn. to next address
        djnz  next
        ld    a,0
        cp    h            ;has h gone over &ff (to zero)
        jr    nc,row       ;if so on to next row
        jr    plot         ;if not go to next screen byte

.row

        inc   e            ;increment outer loop counter
        ld    hl,&c000
        ld    l,e          ;steps up start by one byte
        ld    a,e          ;get e into a for comparison
        cp    (ix+0)       ;if a=step rate,screen covered
        jr    nz,plot      ;go back if not covered
        ret                ;back to basic
```

K & M COMPUTERS

THE LEADING AMSTRAD MAIL ORDER SPECIALISTS

ADVENTURE

ADVENTURE	CASS	DISC
Time and Magik	£11.25	£11.25
Gnome II: Ingrids back	£11.25	£14.75
Tolkien Trilogy	£10.50	£14.75
Scape Ghost	£11.25	£14.75

COMPILATIONS

Soccer Spectacular	£10.50	£13.10
Special Action	£10.50	£13.99
The Story So Far (Vol. 2)	£10.25	£11.25
The In Crowd	£11.25	
100% Dynamite	£11.25	
Taito Coin-op (inc. Rastan)	£9.90	
Supreme Challenger (Inc Elite)	£9.90	£13.10
The Biz	£11.25	
Flight Ace	£11.25	£13.95
Winners	£10.50	£15.95
We are the Champions	£7.75	£13.10
Game Set & Match II	£9.90	£13.95
Space Ace	£10.50	£11.25
Megamix	£11.25	
Coin Op Hits	£11.25	£15.95
Christmas Collection	£10.50	£14.25

STRATEGY / SIMULATION

Kenny Dalgleish	£7.75	
Football Manager II	£7.75	£11.25
F.ball Man.II Expansion Kit	£6.25	£7.25
Football Director II		£14.75
Gunship	£11.25	£14.75
Ancient Battles	£11.25	£11.25
Micropose Soccer	£11.25	£14.75
Chuck Yeagers Ad Trainer	£7.75	£11.25
Kick Off	£7.75	£11.25
Bards Tale (Phone)	£2.75	£6.25
Passing Shot	£7.75	£11.25
Treble Champions	£7.75	
The National	£7.75	
Jack Niklaus	£7.75	£13.99
Heroes of The Lance	£7.75	£15.90
Airborne Ranger	£11.25	£14.75
Emlyn Hughes Soccer	£7.75	£11.25
Gazza Soccer	£7.75	£11.25
Track-Suit Manager	£7.75	
Laser Squad	£7.75	£11.75
4 Soccer Simulator	£7.75	£11.25
Archon Collection	£2.75	£6.25
Championship Golf	£7.75	
Carrier Command		£14.25
Australian Football	£7.75	
Pictionary	£11.25	£14.75

EDUCATIONAL

Answer Back Jnr	£7.95	£11.95
Factfile 500s	£3.75	£6.75
Fun School (U5s, 5-8, 8-12)	£5.50	£7.95
Maxi Maths (Geometry)	£8.50	£13.95
The Three Bears (6128)		£15.95
Happy Breathing (12-16)		£13.95
Magic Maths (4-8)	£8.50	£12.95
Maths Mania (8-12)	£8.50	£12.95
Chemistry GCSE	£11.90	£14.95
Physics GCSE	£11.90	£14.95
Biology 1 (12-16)	£8.50	£12.95
Wordhang	£7.50	£11.95
Happy Writing	£7.50	£11.95
Physics 1 (12-16)	£8.50	£13.95
Mapwork Geography Quiz	£8.50	£13.95
Spanish Tutor	£12.95	£15.95
French Mistress	£12.95	£15.95
German Master	£12.95	£15.95
Iankey Crash Course (6128/PCW)		£19.90
Iankey Two Finger (6128/PCW)		£19.90
Fun School 2 (U6's, 6-8, 8+)	£7.99	£9.99

ARCADE

ARCADE	CASS	DISC
Powerdrift	£7.75	£11.25
Rainbow Island	£7.75	£11.25
Run The Gauntlet	£7.75	£11.25
Vigilante	£7.75	£11.25
Robocop	£7.75	£11.25
Xenon	£7.75	£11.25
Ninja Warrior	£7.75	£11.26
Ghouls 'n' Ghosts	£7.75	£11.25
Indy (Last Crusade)	£7.75	£11.25
Continental Circus	£7.75	£11.25
Rally Cross	£7.75	£11.25
Crazy Cars II	£7.75	£11.25
Beverley Hills Cop	£7.75	£11.25
Elite	£7.75	
The Untouchables	£7.75	£11.25
Vindicators	£7.75	£11.25
Tusker	£7.75	£11.25
Purple Saturn Day	£7.75	£11.45
Xenophobe	£7.75	£11.25
Dynamite Dux	£7.75	£11.25
Batman (The Movie)	£7.75	£11.25
Dragon Ninja	£7.75	£11.25
Moon Walker	£7.75	£11.25
Rick Dangerous	£7.75	£11.25
Test Drive 2	£7.75	£13.99
Knightforce N	£7.75	£11.25
Cabal	£7.75	£11.25
P47	£7.75	£11.25
Shinobi	£7.75	£11.25
Beach Volley	£7.75	£11.25
Strider	£7.75	£11.25
Chase HQ	£7.75	£11.25
Turbo Outrun	£7.75	£11.25
Hard Drivin'	£7.75	£11.25
Ghost Busters II	£8.99	£11.25
Operation Thunderbolt	£7.75	£11.25
Toobin	£7.75	£11.25

BUDGET

BUDGET	CASS ONLY
Winter Games	£2.75
Spy Hunter	£2.75
Battleships	£1.80
Nigel Mansells	£2.75
Space Harrier	£2.75
Frank Bruno Boxing	£1.80
Thundercats	£2.75
On The Bench	£2.75
Turbo Esprit	£1.80
BMX Simulator II	£2.75
Ghostbusters	£1.80
720	£2.75
Formula Grand Prix	£1.80
Paperboy	£2.75
Rugby Boss	£1.80
Mig 29	£2.75
Father Christmas	£2.75
System 8	£2.75
Bombjack	£1.80
Twin Turbo V8	£2.75
Buggy Boy	£2.75
B.M.X. Freestyle	£2.75
Roadrunner	£2.75
Kickstart II	£1.80
Rocky Horror Show	£1.80
Postman Pat	£1.80
Jocky Wilson Darts	£2.75
Grand Prix Sim 2	£2.75
Green Beret	£2.75
Treasure Island Dizzy	£2.75
Fast Food	£2.75
Adv. Pinball Sim.	£2.75
Gauntlet II	£2.75
1942	£2.75
Batman	£2.75
Street Cred Boxing	£2.75

3½ HIGH CAPACITY 2ND DRIVE
with RAMDOS £108
with ROMDOS £118
with RODOS £118
£79

Lowest Prices Available on Printer Ribbons

Special prices on A.M.S. Software

StopPress	£39.95
StopPress & Mouse	£72.95
Mouse & Art	£61.95
Mouse Mats	£4.95
Max	£16.95
Extra Extra	£21.95

KDS Electronics Special Offers

Rombox	£24.95
51/2 Second Drive	£158.95
8 Bit Pr. Port	£18.75
Serial Int + Rom	£44.95
Printer T Switch	£24.95
Screen Master	£14.95
Ramdos (Disc)	£23.95
Romdos (Rom)	£27.95

KDS Modems are no longer available

Mini Office II
Still our No1 Seller
Cass £11.25 Disc £14.75

Amsoft/Maxell 3" Discs

One	£2.50
Five	£12.50
Ten	£24.50
5 1/2 Discs TEN	£3.90
3 1/2 Discs TEN	£9.50

A Swift Reduction on Arnor Products

Protext	Disc	£18.45
Protext	Rom	£28.45
Promerge	Disc	£18.45
Promerge+	Rom	£23.45
Prospell	Disc	£17.45
Prospell	Rom	£23.45
Maxam	Disc	£18.45
Maxam	Rom	£28.45
Maxam 1.5	Rom	£21.45
Utopia	Rom	£21.45

All Prices Include Vat & P&P in U.K.
In stock items sent by return of post.

SPECIAL OFFER
ORDER ANY THREE
£2.75 Budget games
and pay only £8.00

DMP 2000/2160/3000 Ribbons
£3.25 each
£5.99 for Two
£13.50 for Five

ACCESSORIES

Rombo Rombox	£34.95
464 Keyboard Ext Leads	£6.99
6128 Keyboard Ext Leads	£7.99
Cover Set 464 or 6128	£7.50
Cover Set DMP 2000/2160	£4.50
3" Drive Cleaner	£4.99
Cassette Player & Leads	£19.99
6128 Cassette Leads	£3.50
Lockable 3" Disc Boxes	£9.99
AMS 30L Disc Box	£12.50
Ribbon Refresh	£7.95
Joystick Splitter	£7.99

JOYSTICKS

Jetfighter	£14.95
Konix Navigator	£13.95
Digital	£7.50
Cheetah 125+	£7.95
Superboard	£11.99
Konix Autofire	£11.95
Konix Speedking	£9.99
Cruiser (Microswitch)	£9.50
Delta	£9.50
Wico Ergostik	£17.75
Amstrad JV2	£13.95
Pro 5000	£13.95
Quickshot Turbo	£10.50
Micro Blaster	£12.50
Junior	£5.99

BUS/UTILITIES

BUS/UTILITIES	DISC
Adv. Art Studio	£19.99
Money Master	£19.95
Tasword 6128	£20.95
Money Manager	£24.95
Mastercalc 128	£27.95
Qualitas+ v.2	£15.95
Masterfile 3	£32.95
Plan-It	£14.75
Professional Adv. Writer	£24.95
Art Studio & Mouse	£49.95
Tasspell	£13.95

HARDWARE ETC

Star LC10	£179.00
DDI Disc Drive	£159.95
MP2 Modulator	£29.95
FD1 Second Drive	£99.95
64K Memory Expansion	£47.95
Screen Filter	£19.99
Eprom Storage Box	£1.99
Cont. Paper 2000 60g	£18.50
Cont. Paper 2000 80g	£24.50
Mouse Mats	£4.95
Surge Plug	£12.50
C15 Cassettes	£45.00
Fanfold Labels (1000)	£5.90
Mouse House	£3.95
RS232 with Commstar	£55.95
Printer Cable	£9.99
3160 Printer	£149.00

NEW LINES AT LOWEST PRICES

Atari ST Super Pack	£360.00
Amiga Bat Pack	£380.00
PCW8256 (Inc VAT)	£389.00
PCW8512 (Inc. VAT)	£499.00
PCW9512 (Inc VAT)	£510.00
PPC512 (Inc VAT)	£449.00
PC1512 (Inc VAT) from	£449.00
PC1640 (Inc VAT) from	£550.00
PC2086 (Inc VAT) from	£675.00
Utax GRP, 3 fax (Inc VAT)	£999.00
DMP 4000 Printer	£375.00
DMP 3250 Printer	£220.95
LQ 3500 Printer	£375.00
Epson LX800 Printer	£299.00
Commodore PC 1 from	£349.00
80 C Printer Muffler	£85.00

CODEMASTER C.D. PACK ONLY £18.99

K & M Computers (AA)
140, Sandy Lane Centre
Skelmersdale,
Lancs, WN8 8LH
Fax No: 0695 50673
24 Hrs Phone 0695 29046

All items are subject to availability

When ordering please state make of computer.
Please make cheques & P.O. payable to K & M Computers.
Overseas inc. Eire add £1.00 per item of software.
We supply government & educational establishments.

Shop Open 9-6 Mon-Sat

Access/Visa orders by phone or Mail
N = New release
Please Phone for availability and other new releases

VISA

Prop. K. Fairhurst

AA Buyers Guide

This is the place to find what software and hardware is available for your CPC. We list programs by category, and provide producer; phone number; price; issue in which the item was reviewed; and last but not least, a brief description of the program's features and, where appropriate, shortcomings.

But don't take our word for it: if you're in doubt read the original review before you splash out, and make sure by asking the person you're buying from that it meets your particular needs. Best of all is a try-out, if you can find a friend who has what you're thinking of buying.

WORD PROCESSING

Brunword

Brunning Software ☎ 0245 252854
£30.00 (6128) disk, £25 (464) disk ● *AA24*
Complete word processor package with spelling checker, 30,000-word dictionary and card filing programme. Spell checker and dictionary loaded with the main programme. 40, 80 and 128-column screen modes and fast screen response. Tutorial file makes learning the system easy.

Pendown

Logotron ☎ 0223 323656
£19.95 disk ● *AA18*
A complete tutorial in the theory and practice of word processing – it's great fun, too. Open system, owing much to expensive DTP packages.

Protext

Arnor ☎ 0733 68909
£19.95 tape, £26.95 disk, £39.95 ROM ● AA3
Lightning fast on all tasks involving screen. True merging from separate files and disks to the cursor position is easy, and *Protext* supports standard CPC RSX's like DISC, TAPE, CAT etc. ROM version is excellent. Bad points: maximum file space limited to machine memory – about 22K on disk, 38K for the ROM version. As used by *AA*, if that's any recommendation (don't answer that).

Tasword

Tasman Software ☎ 0532 4388301
464, 464D, 6128, £19.95 tape, £24.95 disk ● *AA1*
464 is the tape based version (the same as *Amsword*). 464D has enhancements for a disk drive. 6128 makes full use of a 6128's extra memory. The latter pair include mailmerge facility. Easy to get to know: comprehensive help screens. Screen operations are slow, but may be customised for greater speed.

Pyraword



Discovery ☎ 0742 753423
£14.95 tape, £17.95 disk ● *AA18*
Similar in use to Discovery's *Pyradev*. It loads a profile of inks, printer codes and character set. Word counting, changing disk drives etc – "housekeeping" tasks – are handily located. Uses extra memory of 128K machines for spooling printed documents and storing text. True file merging is impossible, and control keys are odd. Margins cannot be set further apart than 80 columns, although placing a printer control character at the right hand side allows wider documents to be printed.

Wordstar

Micropro/Cumana ☎ 0483 571666
£49.95 disk (CPM) ● *AA1*
Files can be as big as the space available. A professional program, with huge manual and a layout like mission control. If you want a function, it is in there... somewhere. Not fast.

PRINTERS

Manufacturers' recommended retail prices are listed as guidelines, but heavy discounts are offered by retailers.

Amstrad DMP/2160

☎ 0279 454555
£149 including VAT ● *AA6*
Load through front: printer must be above paper; but loading continuous stationery is easy. Poor NLQ mode. £5 for ribbons. Low priced, rather than a bargain.

Amstrad DMP3160

☎ 0279 454555
£199 + VAT ● *AA29*
Similar to but faster than DMP2160. Accepts all IBM and Epson printing codes. NLQ is front loading system. Good buy.

Amstrad DMP4000

☎ 0279 454555
£349 + VAT ● *AA20*
A real text-cruncher. Wide carriage, and really flies across the paper, up to about 200 cps (in NLQ about 50 cps). Fonts available: standard 9 pin Pica, Elite, condensed etc. – but they are different, rather than just adjusted spacing for the same characters.

Amstrad LQ3500

☎ 0279 454555
£349 + VAT ● AA31
Cheapest 24-pin printer. Paper loaded from the rear – more time consuming. 30 cps in letter quality mode, and 62 cps in draft. Print quality excellent: plenty of different type-styles built in. Not ultra fast.

Citizen 120D

☎ 0800 282692
£199 + VAT ● *AA43*
Dimensions: 3.7 kgs, and 370mm x 90mm x 238mm. Draft quality is 'dotty,' and poor, but NLQ is sharp and simple. A quiet beast, with cable to the computer connected on the side. Manual includes a complete written breakdown of all the printer control commands, and their effects.

Epson LX800

☎ 01 902 8892
£279 + VAT ● AA29
Very fast for 9 pin. Control panel for style selection, and Epson compatible. Reverse winding sheets requires care, though.

Epson EX800

☎ 01 902 8892
£629 + VAT ● *AA29*
Upgradable in 101 ways – cut sheet feeds, serial ports, longer life ribbons. Quiet, with respectable printing speed. Sans Serif/Roman NLQ fonts incorporated. Control panel to select fonts – just the same font with different spacings.

Epson LQ500

☎ 01 902 8892
£399 + VAT ● *AA29*
Features galore and price to match. Handles both Sans Serif and Roman styles of NLQ, for instance. Colour-printing upgrade kit available. 24 pin printer, offering excellent quality printing. Control panel to select from many available fonts (ie. the same font at different widths).

Panasonic KXP3131U

☎ 0753 73181
£335.25 (discont.) ● *AA29*
Daisywheel therefore superb quality – but can't print bit graphics (no trendy screen dumps), and if you want different fonts, you have to plug in a different Diablo-compatible one. Not quiet.

Mannesmann Tally MT81

☎ 0734 788711
£149 + VAT ● *AA43*
Dimensions: 70mm x 100mm x 265mm; weight, 4.5 kgs. Prints Epson and IBM graphics. Draft mode print quality is good: square printhead pins put ink onto greater areas. The printed output is more ornate than the Citizen. Manual is superb, but falls down in failing to explain control codes: for that you have to buy the applications manual. Certainly a very good buy.

Panasonic KXP1081

☎ 0753 73181
£219 +VAT ● AA29
Similar to DMP2000/2160: chunky, 9 pins, 10 inch carriage and compatible with Epson codes. Thorough A4 manual, good NLQ mode – better than DMP – and condensed, draft and NLQ modes.

Star LC-10

☎ 0494 471111
£199/259 + VAT ● AA32
First price is for standard dot matrix printer. Fonts selected by button, rather than typing in fiddly control code. Second

price is for relatively inexpensive colour model. The machine uses multi-colour ribbon to produce different mixes, though there are currently no commercial programs to take advantage of this capability *(but see the Colourdump review in AA46, page 24).*

Star LC 24-10

☎ 0494 471111
£299 + VAT ● AA47
A low-cost 24 pin, 10 inch, 80 column Letter Quality printer: 8 resident fonts, all operable from the front control panel and 3 print variations.



INTEGRATED PACKAGES

Info-Script

Brunning ☎ 0245 252854
£50 disk ● 128K only ● *AA35*
Billed as the "complete database with word-processor and spelling checker," it's best with 256K. Well set up, easy to use and allows for changes in layout and content. recently 'supercharged'.

Protext Filer/Office

Arnor ☎ 0733 68909
£24.95/£34.95 disk ● *AA34*
Database that works comfortably with *Protext*, has powerful sorting options and comprehensive invoice printer. Can be slow, but good value.

Mini Office II

Database ☎ 0625 878888
£14.95 tape, £19.95 disk ● AA6
Astonishingly cheap word processor, database, spreadsheet, graphics, comms and label printer all-in-one, it's continued to sell, and sell, and sell... Not full specification, but at this price who's complaining?



EDUCATIONAL PROGRAMS

Amstrad Selection

Fernleaf Education ☎ 0474 359037
£25.95 disk/tape ● *AA32*
For age range 7 to 12+: Eightprograms – including*Fletcher's Castle, Market Stall, The Perfume Hunter, The Raiders, Ferry Captain, Treasure,* and *Thorn Sea.*

Arc Master Pack Plus

Arc Education ☎ 0472 812226
£48 disk● *AA32*
A massive pack of 90 programs: Junior; Primary; a parent/child adventure; DR Logo and word games. Each set available at £10 tape and £12.50 disk. Well presented with good graphics, reasonable musical ditties and plenty of options.

Kosmos

Kosmos ☎ 05255 3942
£9.95 tape, £13.95 disk● *AA32*
Answer Back Junior Quiz lets you either answer the question; make a choice from a number of options; or say whether something is true or false. There's also *Factfile 500*, sets of additional questions for the program: arithmetic, spelling, sport and natural history.

The other range from Kosmos: vocabulary tutors in French, Spanish, German and Italian.

Play School

School Software ☎ 010353 6149477
£9.95 tape, £14.95 disk● *AA32*
Six different utilities including Counting, Find It, Paintbox, Shapes, Match-up and How Much? Paintbox is the best. Other programs in the range are also worth a look, including *Biology, Chemistry* and *Physics* for older children.

Funschool 2

Database Software ☎ 0625 878888
£9.95 tape, £14.95 disk● AA43
So rare is it that educational software gets into the charts that it made the news pages of the weekly computer press. Actually there are three great packages here: under-sixes, six to eights and over eights.



Wordhang

Bourne Education ☎ 0794 523301
£9.95 tape; £14.95 disk ● *AA32*
One of Bourne's range of ten programs. Others include *Happy Letters, Numbers* and *Writing* (all Infant); *Timeman One/Two* and *Map Rally* (all Junior); and the excellent *Chemistry* and *Physics Revision* (Senior).

BUSINESS/ ACCOUNTS

● *See also* Pendown *in* 'Word Processing'

Protext Office

Arnor ☎ 0733 68909
£34.95 ● CPM+, 6128 only ● *AA34*
Requires *Protext* and *Promerge* to run. Information inputted using *Protext*. Mail merge templates included, and very well implemented invoice printing feature. A genuinely useful business system.

SD Microsystems range

SD Microsystems ☎ 0462 675106
General Ledger ● £19.95 ● *AA32*
Sales Invoicer Pack ● £19.95 ● *AA26*
Small Traders Pack ● £24.95 ● *AA26*
Stock Accounting System ● £39.95 ● 6128 only ● *AA32*
SD Microsystems have a range of quality small business systems. Consult original reviews for in-depth explanations of what each does and how it differs from the others – or better still, ring them and ask.

DATABASES

AtLast Plus

Rational Solutions ☎ 056681 511
£39.95 ● CPM+,128k machines only ● *AA30*
Powerful: developed into user's requirements. Data capacity restricted only by disk size, and splitting fields into smaller elements possible. Printed output impressive. Beefy processing.

Masterfile III

Campbell Systems ☎ 0378 77762
£39.95 CPM+ ● *AA30*
With parent/child records – enabling tying together of records, saving space and time. Screen layouts and reports menu selected; not for faint hearts, but good results.

Random Access Database

Minerva Systems ☎ 0392 437756
£29.95 disk ● *AA6*
40 or 80 column screen. Good mathematical and string operations . Random disk accessing gives speed and power.
● *See also* Info-Script *in* '4. Integrated Packages'

SPREADSHEETS

Mastercalc 128

Campbell Systems ☎ 0378 77762
£33 disk ● 128K machines ● *AA4*
Can show two parts of spreadsheet at once. Includes notepad and calculator. Easy to use, but the mathematical formulae can only consist of the four basic arithmetic options. Slows down as more data is entered.

Matrix

Audiogenic Software ☎ 01 861 1166
£34.95 disk ● *AA18*
Uses disk to store data – so good capacity on the plus side, but poor speed on the minus side. Graphic options excellent. Onscreen prompts rare, making it hard at first. Calculating power good.

Supercalc II

Amsoft/Sorcim ☎ 0277 230222
£49.95 CPM+ ● *AA4*
First class documentation. Calculations can be determinative – performed on whether or not cell's contents match given value. Excellent help prompts and arithmetic functions.

ONLY POOLS AND HORSES

FOOTBALL BOXFORM £14.95 (+ £2 for 3" disc)

The only genuine form program for British football now incorporates SOCCEROO, a program specially written for **AUSTRALIAN POOLS**

FOOTBALL BOXFORM is not a gimmicky play thing but a serious statistical analysis of football form. Its sole objective is to improve the chances of winning on the pools or fixed odds and the results speak for themselves. THE PROGRAM HAS FORECAST. 50% MORE DRAWS THAN WOULD BE EXPECTED BY PURE CHANCE.

Homes, aways and draws are shown in order of merit and true odds given for every match. Merit tables show at a glance the teams currently in form and those having a lean spell. Covers league and non-league clubs.

"won £930 on the first week using FOOTBALL BOXFORM" D.D. Devon

"The program is nicely presented and easily used and updated....will undoubtably prove extremely useful and profitable" Chic Computer Club.

POOLS PLANNER £14.95 (+ £2 for 3" disc)

The perm book on a computer. Gives full details of 369 entries ranging from 9 to 73960 lines and covering from 12 to 56 selections. Enter the amount you wish to stake and several examples are listed. No problem with checking... simply enter the results of your selections and the best lines are given almost immediately. Based on Lit-Blocks they are easily entered on the coupon and all are accepted by the pools firms.

RACING BOXFORM & HANDICAP WINNER £14.95 (+ £2 for 3" disc)

Two programs for the price of one. Easy to use and they never go out of date. All you need is a few minutes with a daily paper. **BOXFORM** weighs up a race by considering the many facets of form. Easily amended to suit the user's ideas. **HANDICAP WINNER** shows the value for money bets. Over 1000 winners in 1989 handicaps at 28/1, 25/1, 20/1, 16/1, 15/1.....etc., etc.

"I received the tape last week and already it has paid for itself" A.G. Manchester

SPECIAL OFFERS. Any 2 of the above £24.95 or all 3 £34.90 (+ £4 for 3" discs in either case). Both offers include **FREE** program to work out almost any bet. So good it's used by bookies.

RACING TOOL KIT (£49.95 tape or disc)

A package of 7 programs for the racing enthusiast. BOXFORM and HANDICAP WINNER plus programs to produce ratings and time figures, update private handicaps or form your own, keep records, work out almost any bet, etc.

"Bought your suite of programs - found them to be absolutely marvellous - quite superb" R.E.W. Wolverhampton

Why pay inflated prices? **BOX**oft **CLEVER** and get the **BEST**.
Available on tape or disc for SPECTRUM, CMD C64/128,
AMS CPC's, BBC B. Price for 51/4" discs same as for tapes.

BOXOFT (AA), 65 Allans Meadow
Neston, South Wirral, L64 9SQ

Credit card holders may phone 051-336-2668 (24 hrs)

PRE-SCHOOL, PRIMARY, JUNIOR

ARC Education

Designed by
Experienced Teachers
For use in School and Home

Wide range of programs
For AMSTRAD CPC - PCW - PC1512
- ATARI ST - SPECTRUM +3, +2

CASSETTE £10.00 per set
DISC £12.50 per set
Send SAE for List. Stating Amstrad model and child's age.

ARC (ACT4), 51 Coniston Crescent, HUMBERSTON, SOUTH HUMBERSIDE DN36 4BA. (0472) 812226

LERM SOFTWARE - Z80c TOOLKIT.

THE UTILITY FOR ALL MACHINE CODE USERS - ONLY £9.99

" Exellent value for money " , " Brilliant package " ,
that is what Your Sinclair said about the Spectrum version of our Toolkit, now available for the Amstrad 464, 646, and 6128. 3 programs in 1. Copies to disc.

HAS OUR FULL MONEY BACK GUARANTEE - NOTHING TO LOSE!

- ★ **SUPERB ASSEMBLER - full screen editor - like a word processor. Very fast - has its own monitor.**
- ★ **TOOLKIT - shows what happens to registers when running m/code, plus disassembler, debugger, etc.**
- ★ **CTOS - reverse assembler - changes machine code back into a source file - relocate your m/code!**

IDEAL FOR BEGINNERS. MANY UNIQUE FEATURES. INCLUDES HEX/DEX, LOADER MODE, SINGLE STEPPER. HALF THE PRICE OF MANY RIVALS ! SAE FOR DETAILS. ALL INCLUSIVE PRICE

LERM, DEPT AA, 11 BEACONSFIELD CLOSE, WHITLEY BAY, TYNE AND WEAR. NE25 9UW. TEL 091 - 2533615.

MODE-ONE

21 Orchard Drive
Burton-upon-Stather
Scunthorpe DN15 9EF
South Humberside.
☎ 0724 721204

TITLE		CASS	DISC
100% Dynamite		10.65	--.--
Action Fighter		6.90	10.50
Altered Beast		6.90	10.65
Bloodwych		6.90	10.50
Batman The Movie		7.40	10.65
Beverly Hills Cop		6.90	10.50
Beach Volley		7.40	10.65
Cabal		7.40	10.65
Crazy Cars II		6.90	10.65
Cyberball	NR	7.40	10.65
Chase H.Q.		7.40	10.65
Continental Circus		7.40	10.65
Dynamite Dux		6.90	10.65
Dragon Spirit		6.90	10.50
Dr Dooms Revenge	NR	7.40	10.65
Emlyn Hughes Soccer		7.40	10.65
Forgotten Worlds		6.90	10.65
Football Year II		7.40	10.65
Fiendish Freddy	NR	7.40	10.65
Gazzas Super Soccer		6.90	10.65
Giants		8.50	--.--
Ghostbusters II		7.95	10.65
Gemini Wings		6.90	10.50
Gunship		9.80	13.95
Galaxy Force		6.90	10.65
Ghouls N Ghosts		7.40	10.65
Hard Drivin'		7.40	10.65
High Steel		6.90	10.50
Indiana Jones		7.40	10.65
Jaws		6.90	10.50
Licence To Kill		6.90	10.50
Kenny Dalglish		6.90	--.--
Laser Squad		7.40	10.65
Maze Mania		7.40	10.65
Mr Heli		7.40	10.65
Megamix		10.65	PHONE
Moonwalker		7.40	10.65
Myth		7.40	10.65
New Zealand Story		7.40	10.65
Op. Thunderbolt		7.40	10.65
Purple Saturn Day		7.40	10.65
Powerdrift		6.90	10.65
Running Man		6.90	10.50
Renegade III		7.40	10.65
Red Heat		7.40	10.65
Rick Dangerous		6.90	10.50
Robocop		7.40	10.65
Rainbow Island	NR	7.40	10.65

TITLE		CASS	DISC
Rock N Roll		6.90	10.65
Rally Cross		7.40	10.65
Strider		7.40	10.65
Shinobi		6.90	10.65
Skweek		7.40	10.65
Super Wonderboy		6.90	10.65
Stir Crazy		7.40	10.65
Stormlord		7.40	10.65
The Biz		10.65	--.--
The Untouchables		7.40	10.65
Treble Champions		7.40	10.65
Titan		7.40	10.65
The Champ	NR	7.40	10.65
Timescanner		7.40	10.65
Tin-Tin		6.90	10.50
Tusker		7.40	10.65
Toobin		7.40	10.65
Turbo Outrun		7.40	10.65
Vigilante		6.90	10.65
Wild Streets	NR	6.90	10.65
Xenon		6.90	10.50
Xenophobe		7.40	10.65

★BUDGET CASS ONLY★	OUR PRICE
American Turbo King	2.60
Bionic Ninja	2.60
Barbarian	2.60
Count Duckula	2.60
Champion Baseball	2.60
Dan Dare II	2.25
Die Alien Slime	2.60
Inter Karate +	1.75
Leaderboard	2.60
Miami Vice	2.60
Mig 29	2.60
Paperboy	2.60
Postman Pat	2.60
Rampage	2.60
Rally Driver	2.60
S16 Fighting Falcon	1.75
Spook	2.60
Tarzan	2.60
Top Gun	2.60
Uridium	2.25
Vectorball	2.60
War Machine	2.60
1943	2.60

We cannot possibly list everything we stock here. So if it's not listed, it doesn't mean we haven't got it ! New releases sent on the day of release.

All our prices include P&P & VAT, in England, Scotland, Wales & N. Ireland.
Eire & Europe add £1.20 per item.
Rest of world add £3.00 per item.
NR = New Release - phone for availability.

Please make cheques or postal orders payable to "MODE ONE"

PREMIER MAIL ORDER

TITLE	AMS CASS
100% Dynamite	£9.99
720	£2.99
Ace of Aces	£2.99
Altered Beast	£7.99
APB	£6.99
Arkanoid	£2.99
Barbarian	£2.99
Bards Tale 1	£2.99
Bards Tale 1 or 2 Hint Book	£5.99
Batman the Movie	£6.99
Beach Volley	£6.99
Boxing Manager	£6.99
Buggy Boy	£2.99
Cabal	£6.99
Castle Warrior	£6.99
Chase HQ	£6.99
Combat School	£2.99
Continental Circus	£6.99
Cyberball	£6.99
Dr. Doom	£6.99
Dragon Ninja	£6.99
Emlyn Hughes	£6.99
Escape from Robot Monsters	£6.99
Fighting Soccer	£7.99
Football Manager 2 Gift Pack	£6.99
Footballer of the Year II	£6.99
Fun School 2 (6-8)	£7.99
Fun School 2 (over 8)	£7.99
Fun School 2 (under 6)	£7.99
Gauntlet 1 or 2	£2.99
Gazzas Soccer	£6.99
Ghostbusters 2	£8.99
Ghouls n Ghosts	£7.50
Great Escape	£2.99
Gunship	£9.99
Hard Drivin	£6.99
Hypersports	£2.99
IK+	£2.99
Ikari Warriors	£2.99
Indy Jones Action	£7.50
Jack Nicklaus Golf	£6.99
Jack the Nipper	£2.99
Kick Off	£6.99
Laser Squad	£6.99
Match Point	£2.99
Mega Mix	£9.99
Microprose Soccer	£9.99

TITLE	AMS CASS
Mr Heli	£6.99
Myth	£7.99
New Zealand Story	£6.99
Ninja Warriors	£6.99
Operation Thunderbolt	£6.99
Operation Wolf	£6.50
Paperboy	£2.99
Ping Pong	£2.99
Platoon	£2.99
Powerdrift	£7.99
Predator	£2.99
Quarterback	£6.99
Rainbow Islands *	£6.99
Rambo	£2.99
Rampage	£2.99
Red Heat	£6.99
Renegade	£2.99
Rick Dangerous	£6.99
Robocop	£6.99
Rolling Thunder	£2.99
Run the Gauntlet	£6.99
Shinobi	£6.99
Silent Service	£6.99
Silkworm	£6.99
Space Harrier 2	£6.99
Spy Hunter	£2.99
Star Wars Trilogy	£8.99
Stealth Fighter	£9.99
Strider	£7.50
Stunt Car Racer	£6.99
Summer Games	£2.99
Super Hang On	£2.99
Super Sprint	£2.99
Super Wonderboy	£7.99
Taito Coin Op	£8.99
Test Drive 2 The Duel	£6.99
The Biz	£9.99
The In Crowd	£8.99
Toobin	£6.99
Top Gun	£2.99
Tracksuit Manager	£6.99
Turbo Outrun	£7.50
Tusker	£7.99
Untouchables	£6.99
Wild Streets	£6.99
Wizball	£2.99
World Class Leaderboard	£2.99
World Series Baseball	£2.99

SPECIAL OFFERS TITLE	AMS CASS
10 Computer Hits	£4.99
Astro Ball	£1.99
Ballbreakers 1 or 2	£1.99
Berks	£1.99
Big Sleaze	£1.99
Contamination	£1.99
Dandy	£1.99
Death or Glory	£1.99
Dervish	£1.99
Discovery	£1.99
Don't Panic	£1.99
Empire	£1.99
Explorer	£1.99
Firetrap	£1.99
Fury	£1.99
Get Dexter	£1.99
Gladiator	£1.99
Guadalcanal	£1.99
High Frontier	£1.99
Hive	£1.99
Jack Burton	£1.99
Killapede	£1.99
Killed Until Dead	£1.99
Mega Apocalypse	£1.99
Mr. Wheems	£1.99
Mystery of Nile	£1.99
Nemesis	£1.99
Ninja Hamster	£1.99
Passengers on Wind	£2.99
Diasmatron	£1.99
Prodigy	£1.99
Runestone	£1.99
Sailing	£1.99
Scarey Tales	£1.99
Shorts Fuse	£1.99
Stairway to Hell	£1.99
Starquake	£1.99
The Comet Game	£1.99
Tour De Force	£1.99
Transact	£1.99
Vindicators	£2.99
Vixen	£1.99
Wibstars	£1.99

*Titles marked * are not yet available and will be sent on day of release.*
Please send cheque/PO/Access/Visa No. and expiry date to:

Dept AA, Trybridge Ltd., 8 Buckwins Sq., Burnt Mills, Basildon, Essex, SS13 1BJ.

Please state make and model of computer when ordering. P&P inc. UK on orders over £5.00. Less than £5.00 and Europe add £1.00 per item. Elsewhere please add £2.00 per item for airmail. These offers are available mail order only. Telephone orders: 0268 590766

Cracker

Newstar Software ☎ 0245 265017
£49.00 disk CPM+ ● *AA9*
Spreadsheets must be created from scratch. Documentation good, command sequences soon learned. Mathematical functions well done, with random numbers catered for. Files limited to 17K – and formulae programming not well implemented.



SOUND

Amdrum

Cheetah ☎ 0222 555525
£34.95 ● *AA13*
Digital drum machine. Editor comprehensive. Not Midi compatible: to hear output you plug it into amplifier.

DHCP Midi Interface

DHCP ☎ 0440 61207
£69.95 interface, £34.95+ disk s'ware ● *AA33*
DHCP produce Midi software for various Midi interfaces for CPC, which are incompatible with each other.

Foundation Step-Time Sequencer

Foundation Software ☎ 0252 543945
£34.95 disk
Quite simply the only step-time sequencer you can buy for your CPC.

Miditrack Performer

EMR ☎ 0702 335747
£49.95 interface, £79.90/£89.90 tape/disk s'ware● *AA13*
Midi interface plus sequencing software to drive Midi equipped instruments. Records each instrument then plays them all at once. Onscreen layout similar to multi-track recorder. Excellent.

Sound Blaster

Siren Software ☎ 061 228 1831
£34.99 ● *AA23*
Amplifier and pair of loudspeakers that plug into CPC for maximum 2 watts sound effects.

Midi Interface

Silicon Systems ☎ 061 848 8959
£59.95 interface, £59.95 software ● *AA26*
Useless alone, but software you can use with it – DX7, FB01, MT32, D50 and CZ101 – is diverse. Software prices vary, and lack presentation of EMR sequencer. High performance.



Ram Music Machine

RAM Electronics (Datel) ☎ 0782 744707
£49.99 tape, £59.99 disk ● *AA17*
All in one music package: Midi interface, sound sampler and music editor. Sampler can handle one sample of just over a second. Midi controller software and music editor comprehensive. No through port, though, so 464 users must use tape version. And you can't edit live played Midi compositions.



VISION

AMX Art

Database ☎ 0625 878888
£69.95 disk (includes mouse) ● *AA7*
User friendly, if little unsophisticated compared to *Advanced Art Studio*, but mouse helps greatly. Colour, spraycans, textures, circles and host of other features.

Advanced Art Studio

EEC ☎ 0753 888866
£24.95 disk ● *AA21*
Recently revitalised, this is the user-friendly, best and most powerful art package: works in all three modes. Can cycle through inks, and cut and paste different areas, transformations and reflections. Fill routines in coloured patterns. Available as a standard version for £15.95.



Cherry Paint

Siren Software ☎ 061 228 1831
£9.99 disk ● *AA20*
WIMP controlled – ie mouse moves pointer to various icons to pull-down menus. B/W mode 2 only, but fun. Curves are difficult, but this is a bargain.

DART Scanner

Dart Electronics ☎ 0502 513707
£79.95 ● *AA22*
Attach reading device to your DMP2000, 3000 or 3160. Feed in picture to printer: device reads in picture as B/W image. Quality onscreen isn't amazing, but it works and it's fun.

The Informer

Treasure Island Software ☎ 0492 593549
£29 disk ● *AA33*
For creating animated displays, suitable for classroom and shop window: takes text, graphics and animated displays and produces slide show. Works best but not only with *Parrotry Plus* (see below).

Parrotry Plus

Treasure Island Software ☎ 0492 593549
£19.95 disk ● *AA30*
Rather than lots of effects used anywhere and at any time, *Parrotry Plus* 'remembers' every alteration and plays through the list to create animation. Note: can't dump pictures to printer without external program.

CRL Image System

CRL ☎ 01 533 2918
£19.95 tape, 24.95 disk ● *AA12*
Boasts range of picture manipulations and distortions, but lacks art options. Best on finished pictures – like a mini Quantel box.



Vidi Digitizer

Rombo Productions ☎ 0506 414631
£89.95 ● *AA15*
Grabs picture from video recorder or camera and puts it on CPC screen, allowing you to alter it with an package. Easy to use. Software on tape, disk or ROM includes superb printer dump routine.

Electric Studio Light Pen

Electric Studio ☎ 0462 420222
£19.95 cass, £29.95 disk● *AA1*
Excellent drawing software, including rubber-banding shapes and lines, filling areas, spray-can etc. Accepts software written for it.



● Corrections, additions or ideas for sections to be included are welcome. Drop a line to: *AA Buyers, Amstrad Action*, 4 Queen St, Bath BA1 1EJ

AA56 is due to hit the streets on April the 12th. If you don't want to be the only one your street without a copy, RESERVE ONE NOW!

AAfterthought

Want to know what sort of month we've had? – terrible. And we're going to tell you all about it.

First of all, there was Rod's Paris trip to see Titus. Now it wasn't just the ten days of gloating we had to endure before he went away, or the 'phone calls he made at two o' clock in the morning telling us what a great time he was having. It wasn't even all the wining and dining he did that he insisted on telling us about, or how comfortable the flight was...

No, what really wound us up was that he got a ride in a helicopter and we didn't. That really cheesed us off...

Mind you, we got the last laugh. Who went down with food poisoning within 48 hours of getting back? Ho ho ho...

Trenton's slippage

Trenton was especially fed up. Where most of us were fed up with the weather, fed up about our hangovers, fed up that we'd spent our entire paycheques in the first week of the month... Trenton was fed up with games slippage.

"Where's *X-Out*?" he wailed, to no-one in particular; "Where's *Bloodwych*?" he asked the sandwich-man; "Where's *Double Dragon II*?" he asked the postman. "Where's the nearest pub?" we all cried, and left him to it...

Adam's supply

Adam was extremely fed up. "My ST's broken power suppy is going to cost £130 to fix!" he compained. "You what?" we asked in disbelief. "My ST power supply is going to cost..." "We heard!" we all cried, and laughed ourselves stupid.

Ollie's accident

Ollie was very fed up. "I played five-a-side last night and got hit by the ball." We sympathised, and asked him where he got hit. "Down at the sports club," was his predictable reply. "No," we asked patiently, "where on the body did you get hit?" And when he told us we realised why he'd come in with the walking frame.



● Ollie Alderton, seen shortly before being kicked in the Sports Centre.

To the newsagent: Amstrad Action *is distributed by COMAG*

Dear newsagent,
Please reserve me a copy of the April issue of *Amstrad Action*, due out on Thursday 8th March.

Name:
Address:

Telephone number:
If you're under 16, please get your parent or guardian to sign here:

CD WINNERS!

At last! The moment you've all been waiting for! The winners of the *AA* Win-a-CD-player competition from *AA52*.

But first... but first we'd like to say a serious, and a big, big thank you to all those people, without whose dedication, help, and sheer persistence, none of this would have been possible... indeed, I would like to give a special (*shut yer blimmin' neck and gerron wi'it!*)

Oh, er... yes, right. And the winner is... *DANIEL BARKER OF MIDDLESBOROUGH!* You lucky, lucky devil, Daniel. But wait... what about the runners-up? Here we go:

C Fitzgerald of Manchester
Glyn Exshaw of Blackrock, Cork
Daniel Black of Billericay, Essex
Neil Well of Merseyside
A E Carpenter, Birkenhead
Andrew Wood of Brayhouse, W Yorks
Phil Richards of Fife
Lindsey Punchard of Ashford, Kent

Don't forget, we're holding back two runners-up prizes for all our overseas readers who don't get their copies of *AA* until the Outer Mongolian Customs men have finished reading them...

Meanwhile, the list of winners is going off to Codemasters just as soon as we can stick a stamp on the envelope. (*Trenton, lend us 20p for a stamp will you?*)

● Ah yes, and thanks to Jerry "Uncle Techtip" Glenwright and Tim "PCW" Smith for cover inspiration, and to The Kobal Collection for providing the piccie.

ADVERTISERS INDEX

25% or more off all non-budget software RRP

1st Choice for fast friendly service

EDUCATION

	Tape	Disc
Answer Back Quiz (6-11)	7.45	10.45
Fact Files for above		
20th Cent. Hist.(12+)	3.70	6.70
Arithmetic (6-11)	3.70	6.70
Ass. Football (12+)	3.70	6.70
English Words (12+)	3.70	6.70
Gen. Knowledge (12+)	3.70	6.70
Gen. Science (14+)	3.70	6.70
Know England (12+)	3.70	6.70
Know Scotland (12+)	3.70	6.70
Nat. History (10+)	3.70	6.70
Spelling (6-11)	3.70	6.70
Sport (14+)	3.70	6.70
Super Sport (14+)	3.70	6.70
World Geography (11+)	3.70	6.70
Better Maths (12-16)	8.20	12.70
Better Spelling (9-14)	8.20	12.70
Biology (12-16)	8.20	12.70
Chemistry (12-16)	8.20	12.70
Chemistry GCSE	10.95	14.95
French Mistress (A+B)	12.70	14.95
Fun School (2-5)	4.45	6.70
Fun School (5-8)	4.45	6.70
Fun School (8-12)	4.45	6.70
Fun School 2 (Under 6)	7.45	9.70
Fun School 2 (6-8)	7.45	9.70
Fun School 2 (Over 8)	7.45	9.70
Geog. Map Quiz (9+)	8.20	12.70
German Master (A+B)	12.70	14.95
Giant Killer	-	10.95
Happy Letters (3-6)	7.45	10.95
Happy Numbers (3-5)	7.45	10.95
Happy Writing (3-6)	7.45	10.95
Magic Maths (4-8)	8.20	12.70
Map Rally (7-13)	7.45	10.95
Maths Mania (8-12)	8.20	12.70
Maxi Maths (9-14)	8.20	12.70
Micro English	17.95	17.95
Micro Maths	17.95	17.95
Physics (12-16)	8.20	12.70
Physics GCSE	10.95	14.95
Primary Maths	17.95	17.95
The Three Bears	-	12.70
Timeman One (4-9)	7.45	10.95
Timeman Two (4-10)	7.45	10.95
Weather/Climate (12+)	8.20	12.70
Word Hang (5+)	7.45	10.95
World Wise (7+)	7.45	10.95

LEISURE & SPORT

	Tape	Disc
3D Pool	7.45	10.95
Australian Rules Football	7.45	10.95
Cluedo	7.45	10.95
Colossus Bridge	8.95	10.95
Colossus Chess 4	7.45	10.95
Cricket Master	6.70	-
E. Hughes Int. Soccer	7.45	10.95
Football Manager 2	7.45	10.95
Footballer of the Year 2	-	10.95
Game Set and Match 2	9.70	13.45
Jack Nicklaus Golf	7.45	12.70
Kenny Dalglish	7.45	-
Kick Off	7.45	10.95
Liverpool	7.45	10.95
Match Day 2	6.70	10.95
Monopoly	7.45	10.95
Passing Shot	7.45	10.95
Pictionary	10.45	14.95
Saint & Greavsie	7.45	10.95
Scalextric	7.45	10.95
Scrabble	7.45	10.95
Scruples	7.45	10.95
Sporting Triangles	7.45	10.95
Supreme Chal. Soccer	9.70	12.70
Tracksuit Manager	7.45	-
Treble Champions	7.45	10.45
Trivia	5.20	-
Triv. Pursuit Genus	10.95	14.95

BUSINESS

	Tape	Disc
Mastercalc 128 (6128)	-	24.70
Masterfile 3	-	29.95
Matrix Spreadsheet	-	34.95
Mini Office (Budget)	2.99	4.99
Mini Office 2	10.95	14.95
Money Master	26.20	26.20
Promerge	-	18.70
Prospell	-	18.70
Protext	14.95	19.95

Tasman Products, see Special Offers

ARCADE

	Tape	Disc
100% Dynamite	10.95	-
Action Fighter	7.45	10.95
After the war	7.45	10.95
Altered Beast	7.45	10.95
Barbarian 2	7.45	10.95
Batman The Movie	7.45	10.95
Beverly Hills Cop	7.45	10.95
Chase HQ	7.45	10.95
Chuck Yeagers AFT	6.70	10.95
Coin Op Hits	10.95	14.95
Continental Circus	7.45	10.95
Crazy Cars 2	7.45	10.95
Cyberball	7.45	9.70
Double Dragon	7.45	10.95
Double Dragon 2	7.45	10.95
Dr Doom's Revenge	7.45	10.95
Dragon Ninja	7.45	10.95
Dragon Spirit	7.45	10.95
Dynamite Dux	7.45	10.95
Epyx Action	10.95	14.95
F15 Strike Eagle	7.45	10.95
Fiendish Freddy	7.45	10.95
Galaxy Force	7.45	10.95
Garfield's Winters Tail	7.45	10.95
Gemini Wing	7.45	10.95
Ghostbusters 2	7.45	10.95
Ghouls & Ghosts	7.45	10.95
Giants	9.70	14.95
Grand Prix Master	7.45	10.95
Hard Drivin	7.45	10.95
Ivanhoe	7.45	10.95
Knight Force	7.45	10.95
Konami Arcade Coll.	7.45	13.45
Lazer Squad	7.45	10.95
Licence To Kill	7.45	10.95
Mega Mix	10.95	-
Moonwalker	7.45	10.95
Mr Heli	7.45	10.95
Myth	7.45	10.95
New Zealand Story	7.45	10.95
Ninja Warriors	7.45	10.95
Operation Thunderbolt	7.45	10.95
Operation Wolf	7.45	10.95
P-47 Thunderbolt	7.45	10.95
Pacland	7.45	10.95
Pacmania	6.70	10.95
Pinball Magic	7.45	10.95
Pipe Mania	7.45	10.95
Power Drift	7.45	10.95
Purple Saturn Day	10.95	14.95
Rainbow Islands	7.45	10.95
Real Ghostbusters	7.45	10.95
Rick Dangerous	7.45	10.95
Robocop	7.45	10.95
Run The Gauntlet	7.45	10.95
Shinobi	7.45	10.95
Skweek	7.45	10.95
Space Harrier 2	7.45	10.95
Star Wars Trilogy	9.70	14.95
Strider	7.45	10.95
Super Wonderboy	7.45	10.95
Supreme Chal. (Elite etc)	9.70	12.70
Taito Coin Op. Hits	9.70	-
The Biz	10.95	-
Toobin	7.45	10.95
Turbo Outrun	7.45	10.95
Tusker	7.45	10.95
Untouchables	7.45	10.95
Wild Streets	7.45	10.95
Winners	9.70	14.95
Xenon	7.45	10.95
Xenophobe	7.45	10.95

BUDGET

	Tape	Disc
Choice Cheats 1	2.99	4.99
Choice Cheats 2	2.99	4.99
Choice Cheats 3	2.99	4.99
1943	2.99	
Arcade Flight Sim.	2.99	
Arkanoid	2.99	
Assault Course	2.99	
Bards Tale 1	2.99	6.99
Batman (3D)	2.99	
Big Foot	2.99	
Buggy Boy	2.99	
Count Duckula	2.99	
Crazy Cars	2.99	
Cricket Captain	2.99	
Cybernoid	2.99	
Dizzy	2.99	
Fantasy World Dizzy	2.99	
Flintstones	2.99	
Fruit Machine Sim.	2.99	
Ghosts N Goblins	2.99	
Joe Blade 3	2.99	
Knight Games	2.99	
Little Puff	2.99	
Lost Caves	2.99	
Masters of the Universe	2.99	
Miami Vice	2.99	
Mig 29	2.99	
Mini Office	2.99	4.99
Monte Carlo Casino	2.99	
Operation Gunship	2.99	
Paper Boy	2.99	
Pegasus	2.99	6.99
Peter Beardsley Football	2.99	
Ping Pong	2.99	
Platoon	2.99	
Postman Pat 2	2.99	
Pro Tennis Sim.	2.99	
Pub Trivia	2.99	
Punch & Judy	2.99	
Rampage	2.99	
Renegade	2.99	
Samurai Trilogy	2.99	
Short Circuit	2.99	
Sooty & Sweep	2.99	
Space Harrier	2.99	
Spy Vs Spy 2	2.99	
Star Dust	2.99	
Strip Poker 2	2.99	
Super Sprint	2.99	
Super Tank	2.99	
Thundercats	2.99	
Treasure Island Dizzy	2.99	
War Machine	2.99	
Wizard Willy	2.99	
World Class Leaderboard	2.99	
Air Wolf	1.99	
Air Wolf 2	1.99	
Battleships	1.99	
Bomb Jack	1.99	
Bomb Jack 2	1.99	
Cricket Inter.	1.99	
Critical Mass	1.99	
Danger Mouse - Trouble	1.99	
Danger Mouse - Whoopee	1.99	
Flying Shark	1.99	
Ghostbusters	1.99	
G. Gooch Match Cricket	1.99	
Gun Boat	1.99	
Joe Blade 2	1.99	
Master Chess	1.99	
Pool	1.99	
Popeye	1.99	
Postman Pat	1.99	
Scooby Doo	1.99	
Sigma 7	1.99	
Steve Davis Snooker	1.99	
Storm Warrior	1.99	
Super Nudge 2000	1.99	
Yabba Dabba Doo	1.99	
Yogi Bear	1.99	

ADVENTURE

	Tape	Disc
Bards Tale 1	2.99	6.99
Lancelot	10.95	14.95
Scapeghost	10.95	14.95
Time and Magik	-	10.95
Times of Lore	7.45	10.95
Tolkien Trilogy	9.70	13.45
Total Eclipse	7.45	10.95

SPECIAL OFFERS

SPRING SPECIAL

Low prices on Tasman products

CASSETTES		DISCS		DISCS	
Tascopy	10.45	Tascopy	10.45	Tasspell	13.95
Tasprint	10.45	Tasdiary	10.45	Tasword464	19.95
Tasword	16.95	Tasprint	10.45	Tasword6128	19.95
		Tassign	19.95		

Offer ends 31st March 1990

JOYSTICKS
Quickshot 2 Turbo £9.95
Megablaster £6.45
Cruiser (Black or Blue) £8.95

MP-3 MODULATORS
Allows your CPC monitor to be used as a TV
Phone for details

MAGNUM LIGHT PHASER
Complete with 6 games
Only £29.95

Seal 'n Type
Keyboard protectors
State 464 or 6128
Only £8.95

DR. WHO
AND THE MINES OF TERROR
Arcade adventure with documents, blue print and secret instructions
Still only £3.99 on cassette

SEE US AT GMEX
Computer Cash'n'Carry
15-18 March

RIBBON REFRESH
Printer Ribbon Restorer
Only £7.95

BUDGET BARGAIN
Save over a £1
3 @ £1.99 or 2 @ £2.99
only £4.95

CHEAT

Tape £2.99 — Disc £4.99

Bend the rules! Play your games to the end with the aid of cheats such as infinite weapons and immunity.

CHOICE CHEATS 1

Cheats for: By Fair Means or Foul, Cybernoid, Karnov, Operation Wolf, Flying Shark, Radius, Tanium, Advanced Pinball Simulator, Joe Blade 2, Star Trooper, Reflex and Shanghi Karate.

CHOICE CHEATS 2

Cheats for: Dragon Ninja, Hopper Copper, Arkanoid, Arkanoid 2, Dynamite Dan, Soloman's Key, Dizzy 2, ATV Simulator, Empire Strikes Back, Pro Ski Simulator, Batman and Head Over Heels.

CHOICE CHEATS 3

Cheats for: After Burner, Big Foot, The Hit Squad, Robocop, Skweek, Storm Lord, Thunderbirds, Thunder Blade, Titan, Twin Turbo V8, Yabba Dabba Doo and Yogi Bear.

BLANK DISCS
Maxell CF2 3" discs
£2.50 each
£11.95 for 5
£23.50 for 10

1ST CHOICE SOFTWARE LTD

To order fill in the coupon and send it with a cheque or postal order to

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

All prices are inclusive of VAT and P & P in the UK

PHONE 0706 72728

Title	Disc/Cass	Price

Total price

Name

Address

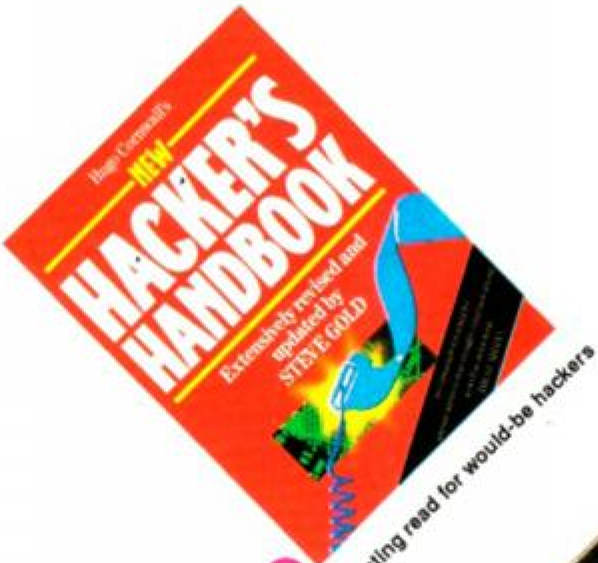
Postcode

AMSTRAD ACTION

THE LATEST AND GREATEST PRODUCTS AT THE BEST POSSIBLE

PRICES INCLUDE POSTAGE, PACKING AND VAT

NO HIDDEN EXTRAS



1 An interesting read for would-be hackers



5 Big Top of Fun



2 An excellent upgrade from the joystick



6 Plant your world with a rainbow

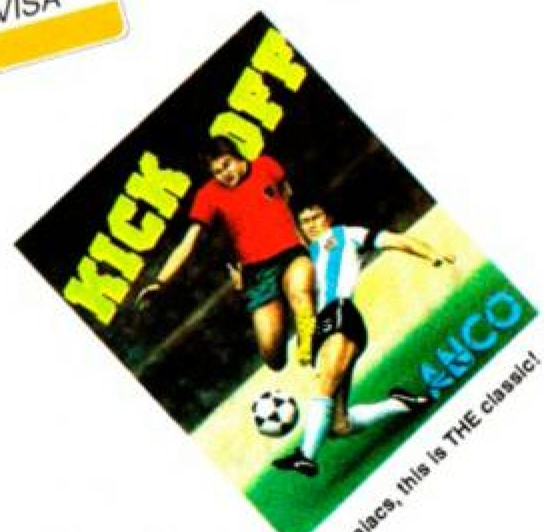
Access

HOTLINE
0458 74011

VISA



3 A brilliant intergrated package



7 Football maniacs, this is THE classic!



4 Superb graphics for your CPC



8 An epic adventure



12 An essential piece of summer clothing AA loyalists!

HOW TO ORDER... JUST MAKE A NOTE OF THE PRODUCT NAME AND ORDER NUMBER AND FILL IN THE ORDER FORM OPPOSITE OR RING OUR HOTLINE NUMBER ON 0458 74011

PRICES!

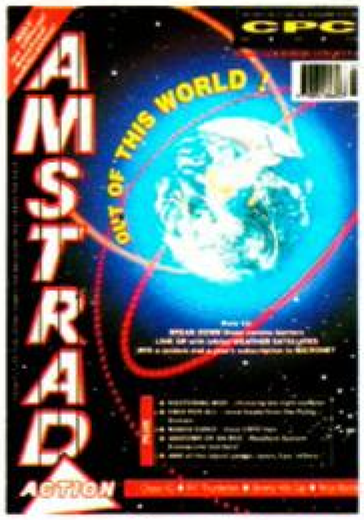


9 A winning compilation



10 Educational software, that makes learning fun



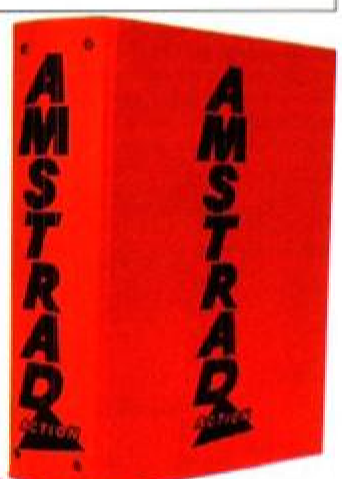


BACK ISSUES

Want to complete your collection of the ultimate CPC magazine? Why not buy the following issues, complete with their cover disks for the same price as newsstand, we pay the postage!

BUY ANY FIVE FOR ONLY £5!

ISSUE	PRICE	ORDER NO
ISSUE 23	£1.25	AA23
ISSUE 24	£1.25	AA24
ISSUE 29	£1.25	AA29
ISSUE 36	£1.25	AA36
ISSUE 41	£1.25	AA41
ISSUE 42	£1.25	AA42
ISSUE 44	£1.25	AA44
ISSUE 45	£1.25	AA45
ISSUE 46	£1.45	AA46
ISSUE 47	£1.45	AA47
ISSUE 48	£1.45	AA48
ISSUE 49	£1.45	AA49
ISSUE 50	£1.45	AA50
ISSUE 51	£1.45	AA51
ISSUE 52	£1.45	AA52
ISSUE 53	£1.45	AA53
ISSUE 54	£1.45	AA54



11 **Be sure your AA's stay safe and clean**

1 HACKERS HANDBOOK

The ultimate guide for hackers, written by Hugh Cornwall and updated by the infamous Steve Gold (Prince Philip/Prestel fame).

INVALUABLE

Description	Price	Order No
Hackers Book	£9.95	AA616

2 MAGNUM LIGHT PHASER

A powrful light gun to plug into the back of your CPC. The ultimate upgrade from the joystick, complete with six bundled games,

SAVE £7

Description	Price	Order No
Light Phaser	£27.95	AA607AC
Light Phaser Cass	£27.95	AA607AD

3 MINI OFFICE 2 Database.

The classic compilation for all CPC's.It includes word processor, database,spreadsheet, graphics, comms and label printer all-in-one.

SAVE UP TO £6

Description	Price	Order No
Mini Office 2 Cass	£9.95	AA608AC
Mini Office 2 Disk	£13.95	AA608AD

4 CRL IMAGE SYSTEM

A graphics package with a difference. Facilities include zoom, move, copy, scale, rotaate and even twist and fold.

SAVE UP TO £8

Description	Price	Order No
Image System Cass	£13.95	AA609AC
Image System Disk	£16.95	AA609AD

5 FIENDISH FREDDY Mindscape.

Roll-up, roll-up for six zany games of circus excitement. Beware of the dastardly Fiendish Freddy, he has evil plans to ensure that things do not run smoothly!

Description	Price	Order No
F. Freddy Cass	£6.99	AA531AC
F. Freddy Disk	£9.99	AA531AD

6 RAINBOW ISLANDS Ocean.

Bub and Bob, battle through seven levels of colourful mayhem. Conjure small rainbows to destroy your adversaries - such as pink vampires and zombies!

SAVE UP TO £5

Description	Price	Order No
R. Islands Cass	£6.99	AA532AC
R. Islands Disk	£9.99	AA532AD

7 KICK OFF Anco.

A brilliant and strategic football game with hours of playability. Five skill levels, from international to Sunday league.

SAVE UP TO £5

Description	Price	Order No
Kick Off Cass	£6.95	AA533AC
Kick Off Disk	£9.95	AA533AD

8 MYTH System 3.

Myth - History in the making. An epic adventure taken from the arcade that will prove to be a real legend.

SAVE UP TO £4

Description	Price	Order No
Myth Cass	£7.99	AA534AC
Myth Disk	£10.99	AA534AD

9 THE BIZ Ocean.

A brilliant compilation consisting of: Batman The Caped Crusader, Operation Wolf, Double Dragon and R-Type.

GREAT VALUE - SAVE £3

Description	Price	Order No
The Biz Cass	£6.99	AA535AC

10 FUN SCHOOL 2

Database Software.

Bumper packages of educational software for infant and primary school age children. Three complete suites of eight programs.

Teddy Bear Under 6's/ Frog 6-8 years/Robot Over 8's

SAVE UP TO £4

Description	Price	Order No
Teddy Bear Cass	£6.95	AA292AC
Teddy Bear Disk	£8.95	AA292AD
Frog Cass	£6.95	AA293AC
Frog Disk	£8.95	AA293AD
Robot Cass	£6.95	AA294AC
Robot Disk	£8.95	AA294AD

11 AA BINDER

Keep your valued Amstrad Action magazine collection together in this bright red binder.

Description	Price	Order No
One Binder	£5.99	AA417R
Two Binders	£9.00	AA4172R

12 AA T-SHIRT

Are you one of the many loyal CPC owners who avidly reads Amstrad Action? If Yes, then spread the word by wearing this superb American T-Shrit.

Description	Price	Order No
Med T-Shirt	£4.99	AA361R
XL T-Shirt	£4.99	AA362R

AMSTRAD ACTION MAIL ORDER

Name

Address

Postcode

Phone number

Description	Price	Order No

Method of payment (please circle) Access • Visa • Cheque • PO

TOTAL ORDER

● **For overseas orders call Clare for prices on 0458 74011**

Credit Card No

Expiry date

Please make all cheques payable to Future Publishing Limited

SEND THIS FORM TO: Clare Bates, **Amstrad Action**, The Old Barn, Freepost, Somerton, Somerset, TA11 7PY

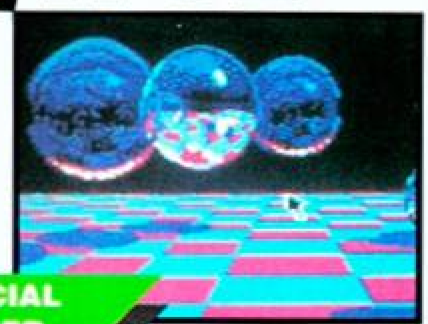
No stamp required if posted in the UK, Channel Islands or the Isle of Man

DATEL ELECTRONICS

THE ULTIMATE GRAPHICS PACKAGE...







SPECIAL OFFER PACK!





Genius Mouse

COMPLETE WITH

OCP ADVANCED ART STUDIO™

ONLY £49.99

TOTAL PACKAGE INCLUDES MOUSE, INTERFACE, ADVANCED ART STUDIO, MOUSE MAT AND HOLDER

TAPE OR DISK FOR 464 OR 6128 (PLEASE STATE WHICH REQUIRED) N.B. 464 NEEDS DK' 64K RAM PACK

- **Genius Mouse is a high resolution two button mouse featuring optical counting, teflon guides, microswitches, rubber coated ball and high quality interface.**
- **When combined with OCP Advanced Art Studio this graphics package is quite simply the best system available. The features are unmatched...**

- Create an image - shrink it, expand it, move it, rotate it, copy it, colour it etc., etc.
- Spray patterns or shades, make elastic lines - stretch and manipulate shapes.
- Zoom in to add detail in fine mode.
- Pulldown/Icon driven menus for ease of use.
- Mouse operation, plus joystick and keyboard control.
- 16 pens, 8 sprays, 16 brushes - so flexible anyone can create superb graphics easily.
- Full cut and paste facilities plus excellent printer support.
- Pixel edit, font editor, flip, invert, rotate, solid or textured fill and professional manual make Advanced Art Studio simply the best graphics package.



FREE!

MOUSE MAT AND MOUSE HOLDER (WORTH £12.99) WITH EACH PACKAGE

ONLY WHILE STOCKS LAST



COMPLETE WITH MOUSE INTERFACE

- The Genius Mouse Graphics System comes complete with the special Mouse Interface to allow super smooth control.
- Attractively styled to match your 464 or 6128 design and colour.
- Simply plugs into Expansion/ Joystick Port.

A TOTAL GRAPHICS PACKAGE

SAVE OVER £25

- **NO OTHER GRAPHICS PACKAGE CAN OFFER SO MUCH AT SUCH A PRICE!!**
- **OCP ADVANCED ART STUDIO ALONE NORMALLY RETAILS FOR £25.00. THE MOUSE SYSTEM HAS A NORMAL PRICE OF £39.99. NOW YOU CAN BUY BOTH FOR ONLY £49.99 AND GET A MOUSE MAT AND HOLDER (worth £12.99) ABSOLUTELY FREE.**
- **WE HAVE LIMITED NUMBERS OF THESE PACKS - SO BUY NOW!**

WHAT THE MAGAZINES HAD TO SAY...

AMTIX
"CLASSIC"

C.T.W.
"PICK OF THE WEEK"

AMSTRAD COMPUTER USER
"BEST UTILITY OF THE YEAR"

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

HOW TO ORDER ...

BY PHONE	BY POST	FAX
0782 744707 24hr Credit Card Line	Send cheques/POs made payable to "Datel Electronics"	0782 744292 UK ORDERS POST FREE EUROPE ADD £1 OVERSEAS ADD £3

PRICES AND SPECIFICATIONS CORRECT AT TIME OF PRESS AND SUBJECT TO CHANGE WITHOUT NOTICE

CALLERS WELCOME - Please reserve goods by telephone prior to visit.

DATEL ELECTRONICS

DATEL ELECTRONICS LTD., FENTON INDUSTRIAL ESTATE GOVAN ROAD, FENTON, STOKE-ON-TRENT, ENGLAND.

SALES ONLY	TECHNICAL ONLY
0782 744707	0782 744324



ALL THESE SPECTACULAR HITS IN A SPECIAL PACK!
IT'S GOTTA BE...
THE BIZ
BATMAN
"Believe me this is brilliant, a finely-honed arcade adventure which is the best comic licence ever – you'd be batty to miss it." CRASH SMASH.
TM & © DC COMICS INC 1988. ALL RIGHTS RESERVED.
BATMAN THE CAPED CRUSADER
R-TYPE
"Here at S.U. we think it's about as close to an ultimate space blast as anyone will ever get. Fab." SINCLAIR USER.
© IREM CORP 1987.
SIZZLER
A CRASH SMASH
R-TYPE
OPERATION WOLF
"What more could anyone ask for in a shoot-em-up. Operation Wolf, simply is The Business." CRASH SMASH.
© TAITO CORP 1988.
RESCUE THE HOSTAGES!
OPERATION WOLF
AA RAVE
DOUBLE DRAGON
"Skillfull programming has taken the superb graphics and addictive game play of the monster arcade hit and faithfully reproduced it on the home computer."
DOUBLE DRAGON
"THE BIZ"
THE GREATEST COMPILATION EVER
ocean
SPECTRUM · AMSTRA
COMMODORE
CASSETTE £14.99
ALSO AVAILABLE O
COMMODORE DISK £17.
Ocean Software Limited · 6 Central Street · Manchester · M2 5NS Telephone: 061 832 6633 · Telex: 669977 OCEANS G · Fax: 061 834 0650